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THE ARCHAEOLOGY OF PORTER COUNTY

By

J. GILBERT MCALLISTER

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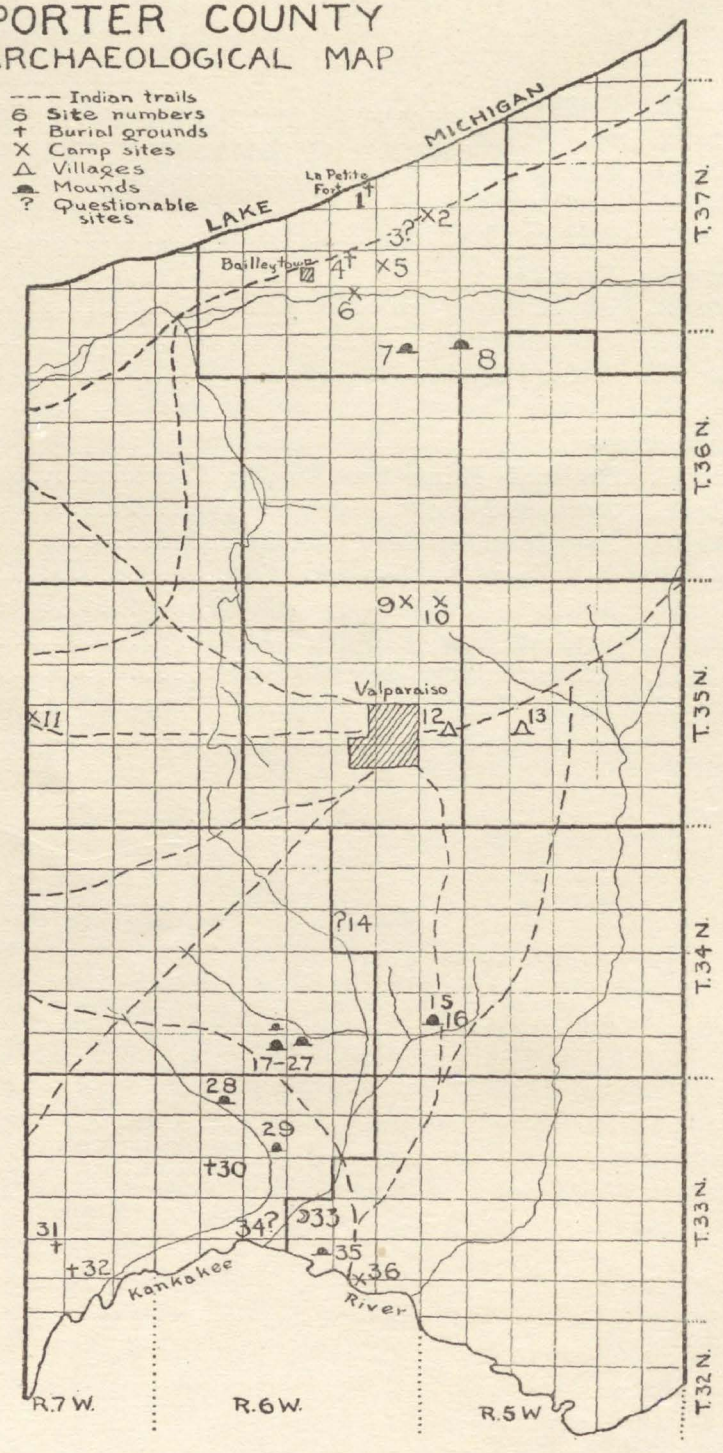
PORTER COUNTY
ARCHAEOLOGICAL MAP



INTRODUCTION

This report is primarily concerned with a description of the aboriginal remains and the excavations undertaken in Porter County, Indiana. The information gained from previous archaeological work in this county has been included, and from this, together with the rather scanty material obtained during the present excavations, an attempt has been made to suggest cultural relationships.

The field work was accomplished during July, August, and September of 1931. A preliminary survey was undertaken to choose a site for intensive investigation. While excavations were being made, more detailed information regarding additional sites was obtained.

This survey was made possible through the combined efforts of the Indiana Historical Bureau and the Indiana Historical Society. To Dr. Christopher B. Coleman, director of the Historical Bureau, and to Mr. William Ross Teel, chairman of the Archaeological Section of the Historical Society, I wish to express my gratitude for their coöperation and interest.

It would be impossible to list here the many citizens of Porter County to whom I am indebted for innumerable courtesies. I am particularly grateful to Mrs. George Chester, regent of the local chapter of the Daughters of the American Revolution and acting head of the Porter County Historical Society, for her assistance in making contacts with people interested in the work; to W. E. Morthland, county surveyor, for the use of a transit and target throughout the season; to A. J. Bouser for the use of his excellent library; and to Henry Klemz, A. E. Upp, Richard and Doshia Vergin, Robert Wark, Albert Weise, and Charlie Wolbrandt for permission to excavate on their lands.

The writer is also indebted to Dr. W. M. Krogman for reporting on the skeletal material; to Dr. Carl E. Guthe for describing the pottery; to Dr. Frank C. Baker for identifying shells; and to Dr. Fay-Cooper Cole, Thorne Deuel, Frank Setzler, and George Neumann for criticism and suggestions.

Porter County is located in the northwest corner of Indiana. It is bounded on the north by Lake Michigan, on the west by Lake County, which is adjacent to the state of Illinois, on the south by the Kankakee River and Jasper County, and on the east by La Porte County. It has an area of 420 square miles.

The area now comprising Porter County was formerly a part of the Indiana Territory, which was organized in 1800. At the time of settlement by the whites the Potawatomi Indians were in possession of the region.

Two of the famous early adventurers who explored the region of the Kankakee River were Jacques Marquette, in 1673, and La Salle, in 1679. In 1822, Joseph Bailly, a French fur trader, established a trading post on the old Sauk trail which paralleled the southern border of Lake Michigan. He located his post at the place which is designated on old maps as Baillytown (see map, page 6). The actual settlement of Porter County did not begin until some months after the United States government had acquired the land from the Indians by the Treaty of 1832.

Porter County was organized by an act of January 28, 1836, effective February 1, 1836. It was named for Commodore David Porter of the United States Navy.[1]

Few accounts have been written of the Indians of the county. J. Lorenzo Werich, who was born near the Kankakee River in 1860 and lived in Porter County, gives the following account:

In the early summer, after the hunting season was over for the fur bearing animals, the Indians would pack their furs, then with their women and children they would start north for the lakes to meet the French fur trading boats which came down to the lower lake region to trade with them for their furs. During the summer season they fished and picked berries, as these were what they lived on mostly during the heated seasons. In the fall they would return to the Kankakee hunting

[1] For a detailed historical account, see the following histories and atlases: Cannon, Thomas H., Loring, H. H., and Robb, Charles J. (eds.), *History of the Lake and Calumet Region of Indiana . . .* (Indianapolis, 1927); Goodspeed, Weston A., and Blanchard, Charles (eds.), *Counties of Porter and Lake, Indiana* (F. A. Battey & Co., Chicago, 1882); *History of Porter County, Indiana*, Vol. 1 (Lewis Publishing Co., Chicago, 1912); *Illustrated Historical Atlas of Porter County, Indiana, 1876* (A. G. Hardesty, Valparaiso, Ind.); *Standard Atlas of Porter County, Indiana . . .* (George A. Ogle & Co., Chicago, 1921).

grounds where one of their main camps was located on a long point of the mainland or ridge that projected far out into the swamp and near the mouth of Sandy Hook. This place was known as "Indian Garden" and hundreds of Indians camped there during the hunting seasons. There was another Indian camping ground a few miles below this on the same side of the river known as the "Indian Island." . . . . . .

It was . . . for untold ages the hunting and camping grounds of the Pottawattomie Indians. It is one of the oldest inhabited islands on the Kankakee and there was no Indian camp between the headwaters and the mouth of this . . . river that had a better [natural] fortification than Indian Island.[2]

Cyrus Thomas refers to the mounds in the adjoining county of La Porte in his report on the mound exploration made by the Bureau of American Ethnology, but makes no mention of those in Porter County.[3]

The only reference to archaeological remains, aside from a few superficial notes occasionally found in histories, is made by W. S. Blatchley, state geologist.[4] He describes the mounds near Boone Grove, including comments on excavations.

Porter County lies in the belt of terminal moraines and is covered with a sheet of glacial drift 90 to 141 feet thick. The northern end of the county, adjacent to Lake Michigan, is composed of sand dunes. The middle region, comprising more than half of the entire county, is higher and undulating, with occasional stretches of prairie lands. A great portion of the section bordering the Kankakee River was formerly swamp land, but has recently been drained. Numerous small lakes dot the landscape. The northern half is drained by small streams which flow into the Calumet River; the southern half is drained by the Kankakee.

When the white settlers first came to this region, "fishes and mussels abounded in the streams and lakes. Wild fowl by myriads in their migrating season came and went, stopping to feed among the marshes. Buffalo, deer and grouse, in untold numbers, inhabited the prairies; while beaver, muskrat and otter crowded the overflowed basins of the Calumet and

[2] Werich, J. Lorenzo, *Pioneer Hunters of the Kankakee*, 27-28, 131 (n.p., 1920).

[3] Thomas, Cyrus, "The Illinois District," in Smithsonian Institution, Bureau of American Ethnology, *Twelfth Annual Report*, 1890-91, p. 555 (Washington, 1894).

[4] Blatchley, Willis S., "The Geology of Lake and Porter Counties, Indiana," in Indiana *Geological Report*, 1897, pp. 82-88.

Kankakee. Nor was the food supply limited to flesh. Wild fruits . . . flourished in profusion along the sand ridges."[5] One can easily believe that it was a veritable paradise for hunting and fishing.

[5] Blatchley, "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 82.

THE SURVEY

The survey of Porter County was made during the summer of 1931. The archaeological remains consist of mounds, camp sites, earthworks, burial grounds, and trails. All of the remains reported in the county were visited and their present condition noted. The larger part of the sites had been previously excavated to some extent or had been dug into by curiosity seekers. The results of previous excavations are included in the present report. The different sites are numbered on the map beginning at the north and proceeding south.

Site 1. Burial Ground. On the outside of the western extremity of Dunes State Park, at a place known as "graveyard" blow-out, a number of people have found skeletal material, including a vertebra with an arrow embedded in the bone. This area was investigated but nothing could be determined regarding former Indian occupation. The exact location is in the S. E. ¼ of the S. E. ¼ of the N. E. ¼ of Sec. 14, T. 37 N., R. 6 W. This is also the approximate location of "La Petite Fort," a small fortification said to have been built by the French.

Site 2. Camp Site. On the sandy elevations east of the small creek which crosses the Dunes Highway east of Tremont, were found countless flint chips and fire-cracked stones, indicating that this may have been a camp site. Motorists frequently stop and hunt for Indian artifacts. A few pieces of very old and fragile bones were also noted. Whether they were animal or human could not be determined from the few fragments remaining. This site is in the S. W. ¼ of the N. E. ¼ of the N. W. ¼ of Sec. 19, T. 37 N., R. 5 W.

Site 3. Reported Mounds. Just south of Tremont lies a region known as "Mound Valley." G. A. Brennan, in his book on the Dunes, says there were at one time nearly a hundred mounds in the little valley, ranging from 20 to 50 feet across, and from 6 to 10 feet high. Some were round, others were elliptical, measuring from 10 to 40 feet long. In an excavation made by M. F. Greene a part of a skeleton was found. The skull crumbled into dust upon exposure to the air. A number

of stone arrowheads, knives, hammers, and pieces of pottery were obtained; also the remains of a long steel knife with bone handle which fell entirely to dust when drawn out.[6] Later the mounds were leveled by the plow and their contents scattered. The region was examined during the present survey but no indication of artificial mounds remained.

West of Highway No. 49 in the marshy portion of the timber on the Charles Michaele farm are many small elevations. These are 1 or 2 feet high, round or oval in shape, and from a few feet to 8 or 10 feet in length. Several of them were examined and found to be natural. It is possible that some of these may have been used for burial purposes, though the usual practice of the Indian was to bury on higher and drier elevations. These natural formations are identical with those described at Site 34.

Site 4. Burial Ground. In cutting through the sand in making the road north of Porter to the Dunes Highway, seven complete skeletons are said to have been removed. No artifacts were reported. The burials were found just west of the new road and south of the Dunes Highway. This is in the N. E. ¼ of the N. E. ¼ of the N. W. ¼ of Sec. 26, T. 37 N., R. 6 W.

Site 5. "Indian" Well. North of Chesterton was a small, natural watering hole which, according to old residents, was used by the Indians throughout the early settlement period. It was a favorite gathering place where large celebrations were held. The hole has been recently filled, but a marked depression is still visible. It is in the S. W. ¼ of the N. W. ¼ of the N. W. ¼ of Sec. 25, T. 37 N., R. 6 W.

Site 6. Camp Site. On the comparatively high elevations on either side of the Calumet River, just north of Porter, F. M. Tharp has found Indian artifacts. It is generally stated that the Indians used these natural ridges for dwelling sites. Though a portion of the area was examined during the survey no indications of Indian occupation were found. The local farmers report that in the adjoining fields "relics" have been found.

Site 7. Mound. On the southern limits of Chesterton, about 200 feet west of Highway No. 49, rises a low mound.

[6] Brennan, George A., *The Wonders of the Dunes*, 8-10 (Indianapolis, 1923).

According to W. Lahyn and A. J. Bouser this mound was formerly about 6 feet high and 80 feet in diameter. It is now little more than 1.5 feet high, though still retaining much of its symmetry. It has been dug into a number of times, skeletal material and many relics being found. The mound has been farmed over and is now planted in alfalfa. Only flint chips were found at the time of the present survey. It is located in the S. W. ¼ of the S. E. ¼ of the N. E. ¼ of Sec. 1, T. 37 N., R. 6 W.

Mr. Bouser is of the opinion that there were formerly more mounds in the vicinity, but none are noticeable now.

Site 8. Mounds. It was reported by Ed Morgan that there were formerly three mounds on his father's farm. He estimates that they were about 12 feet in diameter and approximately 2 feet high. They were excavated by the Morgans in 1893, but only skeletal material was found. They were located on the line between Sections 5 and 6, T. 36 N., R. 5 W., just between two small lakes. Two slight elevations indicate where they stood. The soil is a sandy loam. Burned stone and flint flakes were found on the surface. Large oak trees grow on and near the site.

Site 9. Camp Site. According to Joe F. Bradley the ridge between Spectacle Lake and Flint Lake was undoubtedly an Indian camp site. He obtained many of the specimens of his collections here. The area is at present in timber and grass. Flakes can still be found, but no pot sherds were noticed nor were any found by Mr. Bradley. It is located in the N. E. ¼ of the N. W. ¼ of the S. E. ¼ of Sec. 1, T. 35 N., R. 6 W.

Site 10. Camp Site. On the east side of Flint Lake is a camp site, also located and reported by J. F. Bradley. Here he found flint flakes and a few of the specimens of his collection. The site has now been graded and is used for residential purposes. It is located in the S. E. ¼ of the N. E. ¼ of the S. W. ¼ of Sec. 6, T. 35 N., R. 5 W.

Site 11. Camp Site. On the western edge of Union Township and just south of the Lincoln Highway is an elevation on which, according to William Woods, an Indian camp site was located during early historical times. Many artifacts were formerly found in the vicinity. A farmhouse and barn now occupy the site, a portion of which was removed in grading

the road. The exact location is the S. W. ¼ of the N. W. ¼ of the N. W. ¼ of Sec. 22, T. 35 N., R. 7 W.

Just north and west of this site and across Deep River in Lake County is the "Flatiron Mound" thought in early times to have been an Indian mound with a "water-cure" well.[7] It is now known to be a natural formation.

Site 12. Village Site. "The first white settlers in this region [Center Township] found, on the west side of the southeast quarter of Sec. 19, Range 5, a little north of the La Porte road, a small Indian village of perhaps a dozen lodges, which was called Chiqua's town, from an Indian who had been a chief of a remnant of the Pottawatomies."[8]

Site 13. Village Site. Prattville now marks the approximate location of a former Indian village known as Skeenwas, according to Mark Dickover and others. C. Cain's orchard is said to be located on the former burying ground.

Site 14. Possible Mound. In the center of the N. W. ¼ of the N. W. ¼ of Sec. 14, T. 34 N., R. 6 W., on the Paul Stoner farm, is an elevation which has been pointed out as a possible mound. It is on a natural rise adjacent to land that was formerly marshy and until recently was in timber. Harry Vergin, who formerly farmed the neighboring land, remembers a slight elevation and that there was a depression in the center, as if someone had been digging. At the highest elevation of the place pointed out there is a yellow sandy soil which differs from the surrounding almost black soil of the field. The area is now under cultivation and there is practically no evidence of a mound.

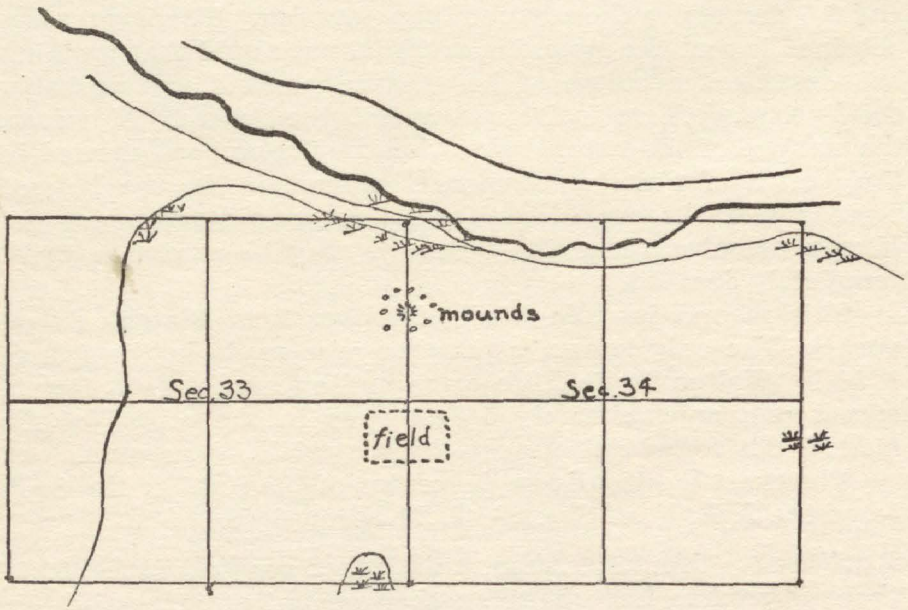
Site 15. Mound. In 1921 the La Count brothers excavated a mound on their father's farm. It is said to have been 15 feet high at one time, though now it is but 5 feet in height and 75 feet in diameter. The soil is a clay with some sand. On the west side of the center and at a depth of about 3 to 4 feet were found skeletal remains and artifacts. It is believed that there were three skeletons, with which were found a copper celt wrapped in leather, a pipe, and a piece of pottery (Plate 9). The celt measures 5.63 inches in maximum length, 3 inches in maximum width, which is at the cutting edge, and ½ inch in maximum thickness. The pipe is of the platform

[7] *Counties of Porter and Lake*, 13.
[8] *Ibid.*, 104-5.

type, with a curved base, measuring 4.38 inches long, 1.75 inches maximum width, with the bowl 1.25 inches high and 1 inch outside diameter. The pottery was coarse and heavy, averaging about .25 of an inch in thickness. It was tempered with grit.

The mound is located on a natural elevation adjacent to marsh land, and is less than 400 feet north of Sandy Hook Creek. It is on the C. F. La Count farm in the N. E. ¼ of the S. W. ¼ of the S. W. ¼ of Sec. 30, T. 34 N., R. 5 W.

Site 16. Mounds. In the timber west of the C. F. La Count farmhouse is a group of three, possibly five, mounds. They are all approximately the same size, the largest being 28.5 feet in diameter and 2 feet high. They are located in a rough semicircle, on a slight natural elevation which is crescent shaped. There was formerly a marsh to the west and south. Sandy Hook Creek is about one-fourth of a mile south. The centers of all five were pitted about twenty-five years ago and skeletal material is said to have been removed. The soil is a sandy clay now covered with oak trees and grass. The



MAP FROM RECORDS OF SURVEYS, 1834

[From map in Records of Surveys of United States Lands (1834), in Auditor's Office, State House, Indianapolis]

exact location is in the S. E. ¼ of the N. W. ¼ of the S. W. ¼ of Sec. 30, T. 34 N., R. 5 W.

Sites 17-27. Sites 17 to 27 inclusive comprise a group of at least ten mounds located one and one-half miles east of Boone Grove on the land of Robert Wark and A. E. Upp. It is said that there were formerly other mounds, which have been obliterated by continued cultivation of the soil. Some of the remaining mounds (Sites 18, 24, 25, 26, and 27) are hardly perceptible.

This group has always been conspicuous. In the Record of Field Notes made by the United States Land Survey in 1834, the north and south line between Sections 33 and 34 is said to pass over "a large artificial mound surrounded by a number of smaller ones."[9] The largest mound, Site 19, is located about 110 paces west of the division line. If smaller mounds ever surrounded this tumulus, they have now been obliterated.

Site 17. Smith Mound. Excavations were begun on this mound but after two days' work it was abandoned as an unpromising tumulus. It is approximately 40 feet in diameter and 3.5 feet above the surrounding elevation. The impression obtained is that the mound is artificial but so old that leaching has destroyed evidence of lens-shaped pockets and probably the line between artificial and undisturbed earth. However, the surface of the natural elevation may have been cleared in preparation for the erection of the mound. In the lack of pottery and absence of artifacts this mound resembles the Vergin tumulus (Site 28). Burials may be so old as to be completely decayed.

This mound is undoubtedly Number 7 in Blatchley's report.[10] The only known excavation was made in the fall of 1930 by Walter Smith. He excavated an area 4 by 6 feet in extent and approximately 5 feet deep in the center of the mound, but found neither skeletal material nor artifacts.

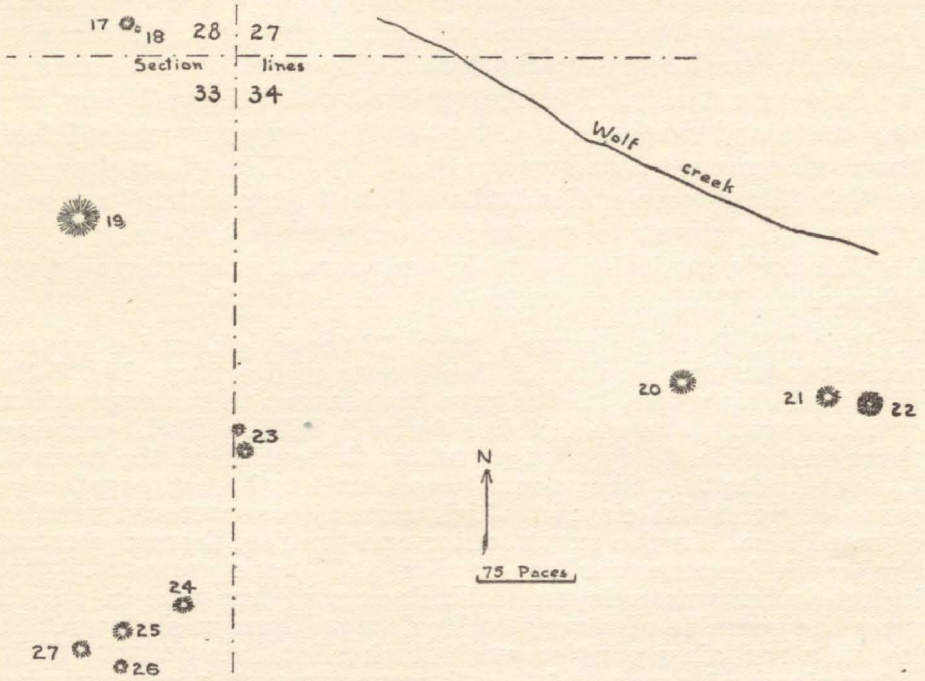
The exact location is in the center of the S. ½ of the S. E. ¼ of the S. E. ¼ of Sec. 28, T. 34 N., R. 6 W.

Site 18. Mound. About thirty feet southeast of Site 17 there is said to have been another mound of approximately

[9] Field Notes North of the Base Line and West of the 2d Meridian, Indiana, 22:447. In Auditor's Office, State House, Indianapolis.

[10] "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 87.

the same size. The place was pointed out by a number of the local farmers as the site of a mound which was graded down in making a road. This is undoubtedly Number 6 men-



GROUND PLAN OF MOUNDS, SITES 17-27, NEAR BOONE GROVE

tioned by Blatchley: "The sixth and seventh mounds are lower and about 100 feet in circumference. They are situated in the extreme southeastern corner of section 28 (34 north, 6 west), and have never, so far as known, been disturbed."[11] Nothing now remains to denote its former presence.

Site 19. Wark Mound. This is the largest and best-known mound in Porter County. It is 100 feet east and west, 110 feet north and south, and 10 feet high. Local people estimate that it was once from 16 to 20 feet high. In 1897, however, Blatchley estimated it to be but 12 feet in height. It was probably circular in form, but continual plowing with north-south furrows has undoubtedly extended the mound in that direction. A. E. Upp, the first man to farm the land, said the mound was formerly much steeper and quite difficult to plow.

[11] *Ibid.*, 87.

Since there was some doubt as to the artificiality of the mound, a test pit was placed in the southeast quadrant, 15 feet from the center. The pit was 3 feet square by 3 feet 8 inches deep and a post hole in the bottom of this pit was sunk 3 feet deeper. One and one-half feet from the surface a few bones of a small animal were found. Up to 1.5 feet the mound is of a compact clay. For the remainder of the depth dug, the clay contained much sand. At a depth of approximately 5 feet the clay became wet and was quite sticky. Though no charcoal or flint flakes were noticed, the soil had an artificial appearance and the elevation was undoubtedly made by man.

The finds made by Blatchley support the conclusion that this was an artificial mound:

It is 300 feet in circumference, 12 feet high, and almost a perfect sugar-loaf in form. The owner of the farm, Mr. John Wark, of Valparaiso, kindly gave his consent to the excavation of this mound, and on October 6 and 7 1897 a ditch was dug three feet wide, 32 feet long, and, at the center of the mound, 14 feet in depth. The mound was found to be composed of a compact, yellowish clay, in which were a few scattered pebbles of small size. In the exact center and ten feet from the crest, the earth became darker, harder and more compact. Six inches lower was a layer of black organic matter, in which were the remains of a very badly decayed human skeleton. It lay in a reclining position with its head to the south. Only a few pieces of bone and 14 teeth were removed, the remainder crumbling to dust. The crowns of the teeth were hard and solid, but the fangs for the most part crumbled like the bones. No implements of any kind were found, though the excavations were extended for four feet lower, and over an area 5 x 7 feet in the center of the mound.[12]

It is not plausible to suppose that the Indians would have made intrusive burials to such a depth, considering the crude implements with which they had to dig and the almost general practice of shallow burials.[13] The remains Blatchley speaks of were undoubtedly placed in the mound at the time of its construction. The mound is located in the N. E. ¼ of the N. E. ¼ of the N. E. ¼ of Sec. 33, T. 34 N., R. 6 W.

[12] "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 88.

[13] Schoolcraft, Henry C., *Information respecting the History Condition and Prospects of the Indian Tribes of the United States*, 4:54 (Philadelphia, 1860); Griffin, James B., "Aboriginal Mortuary Customs in the Western Half of the Northeast Woodland Area," Manuscript Thesis, University of Chicago, 1930.

Site 20. Douglas-Hiatt Mound. The first mention of this mound was made by Blatchley's report of 1897: "One hundred yards to the northwest is the third, 180 feet in circumference and but four feet high, with a black oak 5.7 feet in girth growing from its side."[14]

The only known excavation was made by L. E. Douglas and Albert Hiatt in 1928. A pit was dug in the center and, according to Douglas, there was a depression in the floor of the mound in which burials had been placed. They were surrounded by black earth or muck and were very fragmentary. In the southeast quadrant at a depth of about 5 feet and several feet from the center of the mound, artifacts were found associated with a burial. A platform pipe of red stone with a curved base was the most prized find. The pipe is said to be identical with that shown in Plate 9, except for material. Unfortunately it was broken and the pieces lost. A copper celt was associated with the pipe, as was also a copper awl measuring 4 inches in length and .38 inch in thickness. Nothing else was noticed.

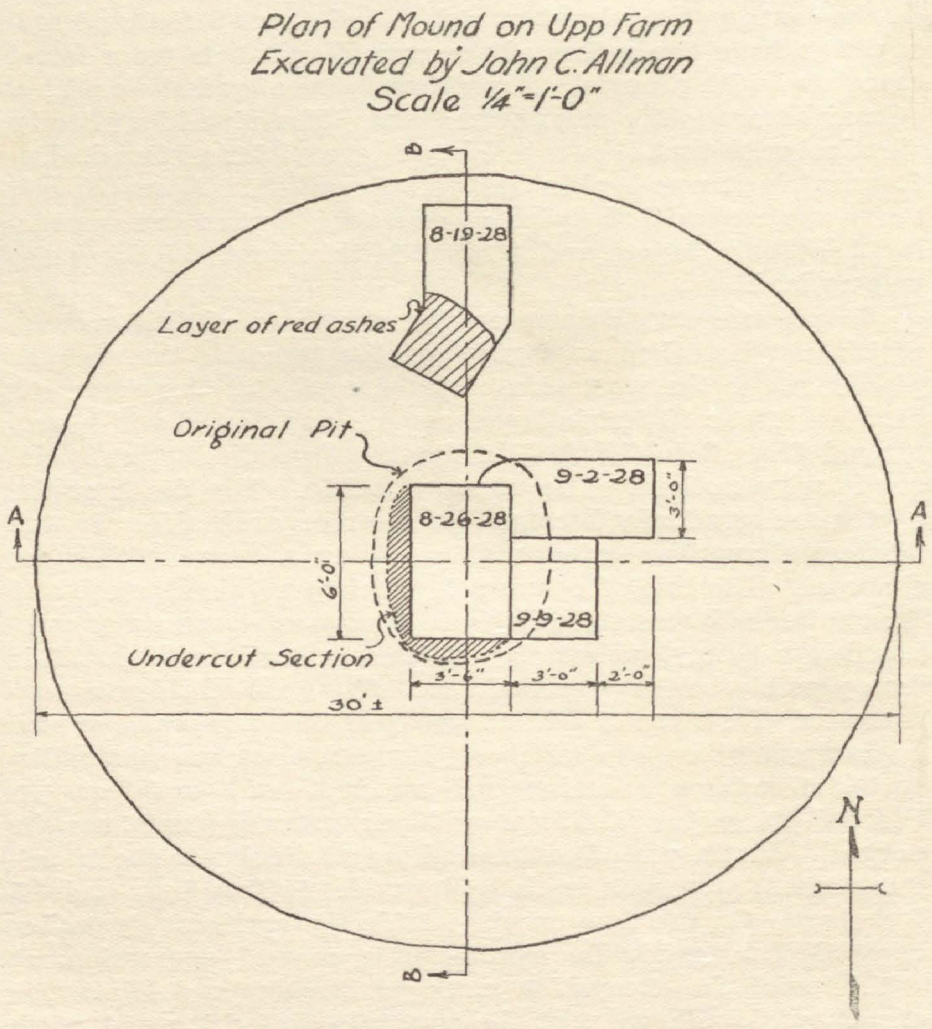
In an effort to determine the structure of this mound, which can be taken as typical of the group, a trench was placed across the west side, approximately 12 feet from the center. It was 43 feet in length, averaged 4 feet in width, and ranged from 3 to 7.5 feet in depth. Two distinct artificial strata were noticed. The upper was 2.5 feet in depth at the center and gradually became shallower on each side. It was primarily composed of an ash and clay mixture with some charcoal. The line of demarcation between this stratum and the one beneath was quite distinct. The lower stratum was composed of a lumpy, yellow clay which was hard and dry. This may possibly be the result of heat. The base of this stratum consisted of a layer of ash, charcoal, and humus which varied in thickness from 1 to 3 inches. Beneath this area was undisturbed crumbly clay and gravel to a depth of 3 to 4 feet. In Plate 8 these two artificial and one natural strata can be noticed. Just south of center and perpendicular to the trench established, a cut was made 4 feet wide, 10 feet long, and 6.5 feet deep. On the face on either side the artificial strata became deeper, gradually sloping to a central depression, at which point the excavation made by Douglas and Hiatt was encountered. Throughout the two cuts flint chips and much

[14] Indiana *Geological Report*, 1897, p. 88.

charcoal were noted, but not a single artifact or pot sherd was found.

The mound is 65 feet on a north-south axis, 59 feet on a east-west axis, and approximately 4 feet above the surrounding elevation. It is in the S. W. ¼ of the N. E. ¼ of the N. W. ¼ of Sec. 34, T. 34 N., R. 6 W.

Site 21. Allman Mound. The central mound of the three on the A. E. Upp farm is 4.1 feet (transit 1931) above the surrounding elevation and about 45 feet in diameter. Accord-



GROUND PLAN OF ALLMAN MOUND, SITE 21. DRAWING BY J. C. ALLMAN

ing to Blatchley, this mound was excavated just previous to 1897 by Superintendent Wood of the Valparaiso schools. He also states that "it is 170 feet in circumference and 8 feet high, with a flatter top and fewer trees growing from it."[15] It is thought that nothing was found by Wood.

The mound was again excavated in 1928 by J. C. Allman. He has written up the excavation from notes made at the time. His coöperation and assistance, not only in making available this material, but in the whole summer's work is most gratifying. The following is taken from Allman's report on this excavation:

EXCAVATION: Because of lack of time, inability to work any day except Sunday, and the report that the mound might be excavated by someone who had no archaeological interest in it, I used the method which is described in this report. Each pit was of such size as one man could dig in a day, allowing for time to investigate ordinary finds and take notes on the excavation. If anything unusual had been found, this procedure would, of course, have had to be changed. The following are the results of each day's work:

Aug. 19, 1928. Started horizontal trench straight into north side of mound. Found mound had been placed on original ground level, but with red ashes between. This excavation was so barren that the vertical pit was chosen as the quickest method for determining what was in the mound.

Aug. 26, 1928. Pit in center of mound, 3.5 feet by 6 feet. Upper 1.5 feet showed previous excavation. Next 3.25 feet of clay and gravel, with definite lenticularity. Next 3.25 feet of black dirt, damp and sticky, evidently brought in from the adjacent marsh. Below that .5 inch to 4 inches of white ashes. On the bottom, but overlying a thin layer of red ashes, was 4 inches to 6 inches of black dirt mixed with sand and gravel, and many bones were in this layer.

Sept. 2, 1928. Pit 5 feet by 3 feet. Strata similar to excavation of Aug. 26, but on one side the original ground sloped up until it was the same elevation as on the outside of the mound, showing that the center of the mound was a pit. This is shown on the drawings.

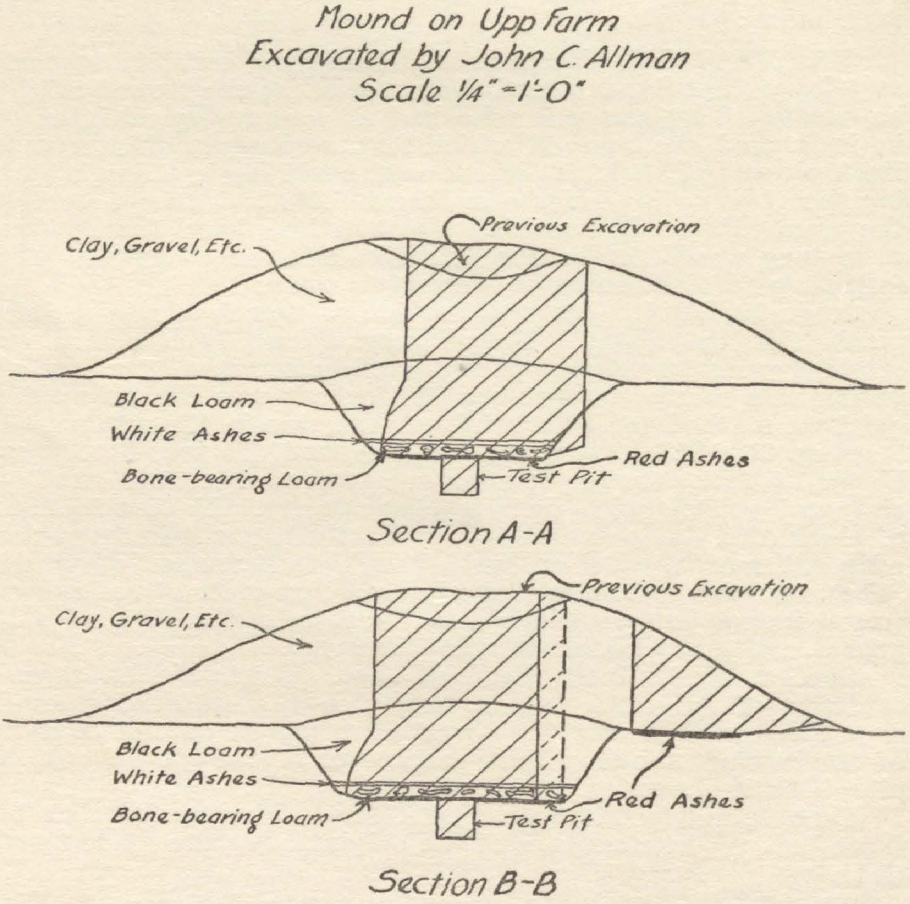
Sept. 9, 1928. Pit 3 feet by 4 feet. Findings similar to those before. The outlines of the original pit were made more clear.

FINDINGS: There was not an artifact of any kind in this mound. The nearest to it were a few flint flakes mixed in with the dirt. The bones that were found had been thrown in indiscriminately, some perhaps in bundles, where the leg

[15] "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 87.

and arm bones were in little piles. Some of the bones had been gnawed, showing that they had lain on platforms in the trees in accordance with an old custom of the Indians. One interesting find was the complete skeletons of two feet with all the small bones still in position.

The bones were of the same size as those of an average person of today. In thickness the skulls varied from 1/8 to 3/16 inch. . . . The adult teeth were much worn and very smooth. Some showed considerable signs of decay. Most of the bones were in an excellent state of preservation. Practically all the bones were of adults.



CROSS SECTIONS OF ALLMAN MOUND. DRAWING BY J. C. ALLMAN

CONCLUSION: A pit was first dug, about 6 by 8 feet and 3 feet deep. In this a fire was built and kept burning for a short time. Next the bones were gathered and thrown in together with dirt scraped from the nearby ground. Over this

a fire was built and kept burning for a long time, until a thick mass of ashes collected. Next they brought loam from the marsh and heaped it over the ashes, and completed the mound with clay and gravel from the edge of the bluff. The lenticularity of the mound showed that it had been built in the usual way.

Apparently this was a simple burial mound, probably for the common people, since there were no artifacts with the bones. How old the mound is, or who built it, are questions which cannot be answered by anything found in or about it, unless they can be connected with similar finds in other mounds about which something definite is known.

It was unfortunate that the mound could not have been excavated in a more scientific manner, but I feel that everything of value was got out of it. If it had not been done in this way it would have been completely destroyed by others who wanted to excavate merely for such artifacts as they could find. Under the circumstances it was the best method.

The Allman mound is located in the approximate center of the S. ½ of the N. E. ¼ of the N. W. ¼ of Sec. 34, T. 34 N., R. 6 W.

Site 22. Franz-Green Mound. This is the second largest of the mounds located on the Upp-Wark land and forms the eastern limit of this group (Plate 3). It was built near the end of a natural elevation. The land slopes down in all but a westerly direction and Wolf Creek flows just north. It is in the S. E. ¼ of the N. E. ¼ of the N. W. ¼ of Sec. 34, T. 34 N., R. 6 W.

Blatchley first mentioned the mound: "The one nearest the creek is the largest of those in the woods. It is 210 feet in circumference and its crest is 10 feet above the surrounding level. Growing on it are a number of black oak trees, one of which is 4.5 feet in circumference."[16] According to Blatchley this mound was excavated by Superintendent Wood of the Valparaiso schools, but no information is available regarding this excavation.

The only other excavation about which information could be obtained was made in 1915 by Amos Green and Harvey Franz. Through the courtesy and coöperation of Mr. Franz and Mr. Green, the material removed from the mound was examined and photographed. Mr. Green also typed and revised his notes taken at the time of the excavation and pro-

[16] "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 87.

vided photographs and newspaper clippings. In fact, he made available every possible bit of information and his wholehearted coöperation and interest is sincerely appreciated.

Though Mr. Green made every effort to take complete notes while excavating, lack of time prevented his doing this. Also he did not revise his notes until the spring of 1931—sixteen years later. At this time he composed two reports, one for Mr. Franz, the other for the meeting of the Central Section of the American Anthropological Association at Three Oaks, Michigan.[17] Both sets of notes were examined, but unfortunately they do not agree in detail. It is therefore possible to summarize only, and to draw conclusions from statements corroborated by both reports.

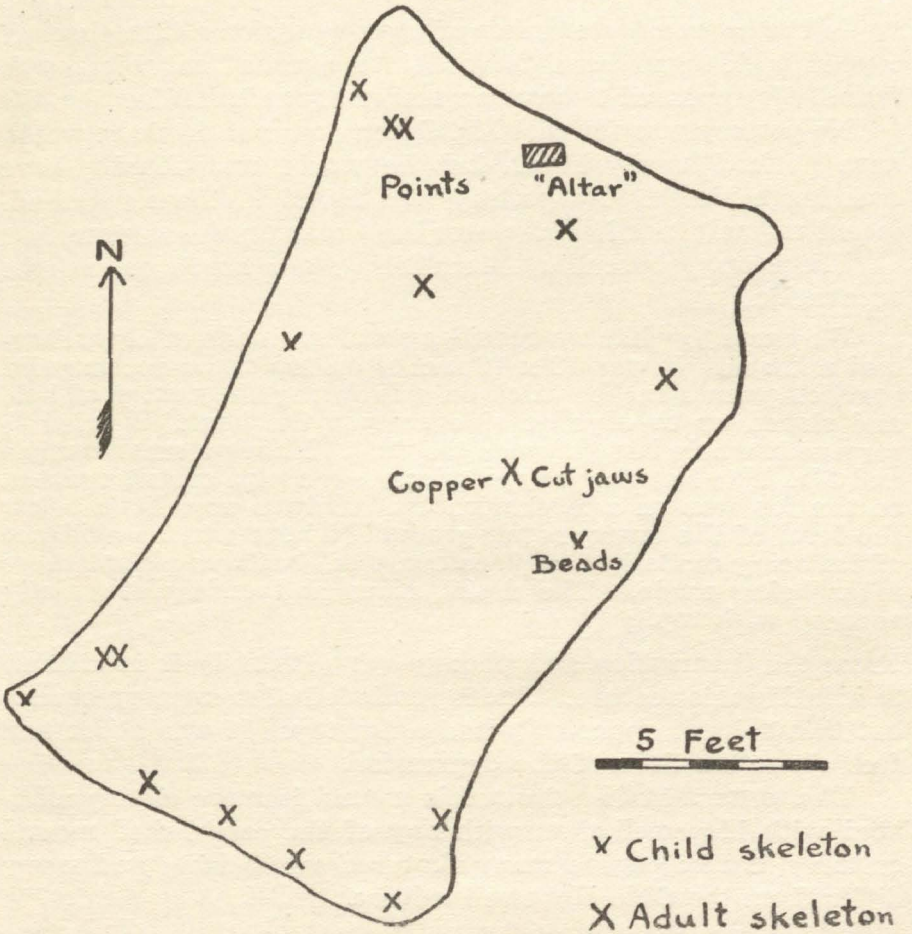
At the time of the 1915 excavation the mound was circular in shape with a hollow at the top caused by an earlier excavation. The mound was then 60 feet in diameter and 8 feet high. At present the mound has the same diameter but the height was established as 5.1 feet above the surrounding elevation.

Only that portion of the tumulus which overlay a central pit was excavated by Mr. Franz and Mr. Green. In constructing the mound the builders had dug a rectangular depression 9.5 by 18 feet and 2.5 feet deep, with the long axis in a northeast-southwest direction. This was either made on the surface or the top soil was removed and the pit dug into a lower stratum which had been cleared and leveled off.

At least 17 burials, 3 of which were children, had been placed in this central pit (see page 25). There was apparently a layer of ashes from ½ inch to 2 inches thick, but no charcoal was found. It was above the burials and thought to have been general throughout the mound. Also there was a thin layer of ash less than ½ inch thick across the entire bottom. All the material was found between these two ash layers. Mr. Green believes that the burials found were of the bundle burial type of interment. The skull of one of the skeletons was photographed (Plate 7). According to Dr. Krogman and George Neumann the elongated and evenly receding forehead is due to artificial flattening, which Mr. Neumann believes is not unusual among the Hopewell skeletons he has examined.

Associated with the skeletal material were artifacts. A group of seven diagonally notched projectile points was found

[17] The original notes and the two reports are now in the Archaeological Files of the Historical Bureau.



GROUND PLAN OF CENTRAL DEPRESSION OF FRANZ-GREEN MOUND, SITE 22

in the north end of the depression (Plate 5). They had apparently been placed, for four were lying side by side with their points all in one direction, and the other three were above these four with all of their points in the opposite direction.

Two cut jaws (Plate 6) were apparently related to the central burial. They had been carefully ground down to the shape shown, with two counter-sunk holes in each one. They are in an excellent state of preservation with all the teeth, except one incisor, intact.

Five shell beads were found with the child's skeleton which was in the center of the southeast side of the pit. The beads appear to be made from the columella of the conch.

In the approximate center of the depression a thin sheet of copper which had been formed into a tube-like object was found. It appeared to have a number of reeds inside.

No pottery was found. Mr. Green does not think he would have noticed small sherds, but he would undoubtedly have seen large pieces. No pottery was found in the several adjacent mounds, nor has any ever been seen on the surface.

There was a peculiar formation on the north end of the excavation.

We came to what we consider an altar, made of clay, charcoal and ash. It was 12 x 16 inches on top and a rectangular parallelogram 4 inches thick on side facing the center of hole and sloped up to edge on side nearest the bank. I tried to remove it whole but [it] was too frail. I have a small sample and Mr. Upp has the largest piece taken out. It was placed so the top was on a level with the hardpan or a little below the level of the surrounding ground. There was no evidence of its being made in the place occupied, but was placed there after being made. The front, sides and ends were nicely squared with top.[18]

From the description and photograph (Plate 4) it is difficult to identify this feature. One is reminded of crematory basins, but this "altar" apparently had a flat top. It was about two feet above the floor of the depression.

The material taken from this mound is more closely affiliated with Hopewell than with any of the established mound cultures, but of course many features are lacking and many differ from the Ohio Hopewell culture.

Site 23. Mounds. Just adjoining the line between Sections 33 and 34 are two mounds, which were noted by Blatchley: "One is 175 feet in circumference and six feet high, the other 75 feet in circumference and four feet in height."[19] The larger of the two was excavated by Mr. Blatchley and the smaller by Superintendent Wood and a number of his pupils. The results of these excavations are not known. The mounds are now proportionately much smaller. A pit was sunk into the larger one in the fall of 1930 by J. C. Allman and some Boy Scouts. At a depth of about 3.5 feet a small slate gorget was found. Two holes penetrated the material, and a third

[18] Ms. report of Mr. Green, Archaeological Files, Indiana Historical Bureau.

[19] "Geology of Lake and Porter Counties," in Indiana *Geological Report*, 1897, p. 87.

was partially drilled. At about 4 feet skeletal material was encountered, with an ash layer above and a humus layer below. The skeletons were not disturbed. It is said that other excavations have been made in these two tumuli.

Site 24. Possible Mound. This is a low elevation which merges gradually into the surrounding field. It is merely a symmetrical elevation approximately 1.5 feet high and 50 feet in diameter. Long and continued plowing has probably reduced the height, whether it be natural or artificial. A test pit was not feasible at the time and the only reason for considering this elevation is because of its relation and similarity to adjoining tumuli which upon examination proved to be mounds. It is in the S. E. ¼ of the N. E. ¼ of the N. E. ¼ of Sec. 33, T. 34 N., R. 6 W.

Site 25. Mound. But for its relation to other mounds, this elevation would hardly be noticeable. It is approximately 2 feet high and probably about 60 feet in diameter; this is difficult to determine, for the mound imperceptibly merges into the surrounding area. The north one-third has been slightly graded down. A test pit made in this area revealed its artificial construction. Much charcoal and many flint flakes were found, but no pot sherds. At a depth of 3 feet a portion of a charred log was encountered. The test pit, which was 3 feet 11 inches deep, did not reach an undisturbed base. The mound is located in the N. E. ¼ of the S. E. ¼ of the N. E. ¼ of Sec. 33, T. 34 N., R. 6 W.

Site 26. Pike Mound. A shallow test pit revealed the mottled character of the soil, which, with a few flint chips and small amount of charcoal, indicated a mound. It is but 1.5 feet high and probably 50 feet in diameter, though again the limits of the tumulus are not plainly defined. It is in the center of the S. E. ¼ of the N. E. ¼ of Sec. 33, T. 34 N., R. 6 W.

Site 27. Possible Mound. About 100 feet west of the above-mentioned tumuli is another elevation approximately 70 feet in diameter and 1.5 feet high. This may be a mound. Plowing has destroyed any marked features of any of these mounds. Externally this elevation appears to be a mound similar to those tested.

Site 28. Vergin Mound. This mound is located on the northeast end of a loaf-shaped elevation which lies in a northwest-southeast direction. Formerly this natural elevation, which is undoubtedly a moraine, was surrounded on three sides by marsh. Though there is a depression to the north, there is sufficient elevation to have formed a dry connection to the higher rolling country in that direction. Paralleling this moraine, about 200 feet to the southwest, is Cornell Creek.

The mound is now in a comparatively isolated region, which undoubtedly accounts for the fact that it was practically unknown to the community and had not been disturbed. It is conical in shape, and approximately 50 feet in diameter and 4.5 feet above the surrounding elevation (Plate 10). It was constructed of yellow clay resembling the top soil in the immediate vicinity. After the survey was practically completed it appeared that this mound was the most promising for excavating and arrangements were made with Richard and Doshia Vergin, on whose land the tumulus was located, for the excavation. The exact location is the S. E. ¼ of the N. E. ¼ of the S. W. ¼ of Sec. 5, T. 34 N., R. 6 W. The excavation of the mound is discussed in a later chapter of this report.

Site 29. Aylesworth Mound. On a natural elevation adjacent to marsh land are the remains of what is said to have been a mound. It measures 56 feet in diameter and is about 2 or 2.5 feet high. George C. Gregg of Hebron dug into it about 1891. He found skeletal material at a depth of about three feet, but no artifacts. Much earth has been recently removed. The surface soil for the depth of about 1 foot is of a black mud and sand mixture. The subsoil is a yellow sand. Some flint flakes were found in the vicinity at the time of the survey. The site is located on the Aylesworth brothers' farm in the N. W. ¼ of the S. E. ¼ of the S. E. ¼ of Sec. 9, T. 33 N., R. 6 W.

Site 30. Burial Ground. Tradition among the oldest settlers tells of a natural sand mound which has been used as an Indian cemetery. According to John Reif white men are buried on the southern slope of this same elevation. Artifacts are sometimes unearthed while plowing. This is located on the Reif farm in the N. W. ¼ of the N. E. ¼ of the N. W. ¼ of Sec. 17, T. 33 N., R. 6 W. About 100 feet north and on

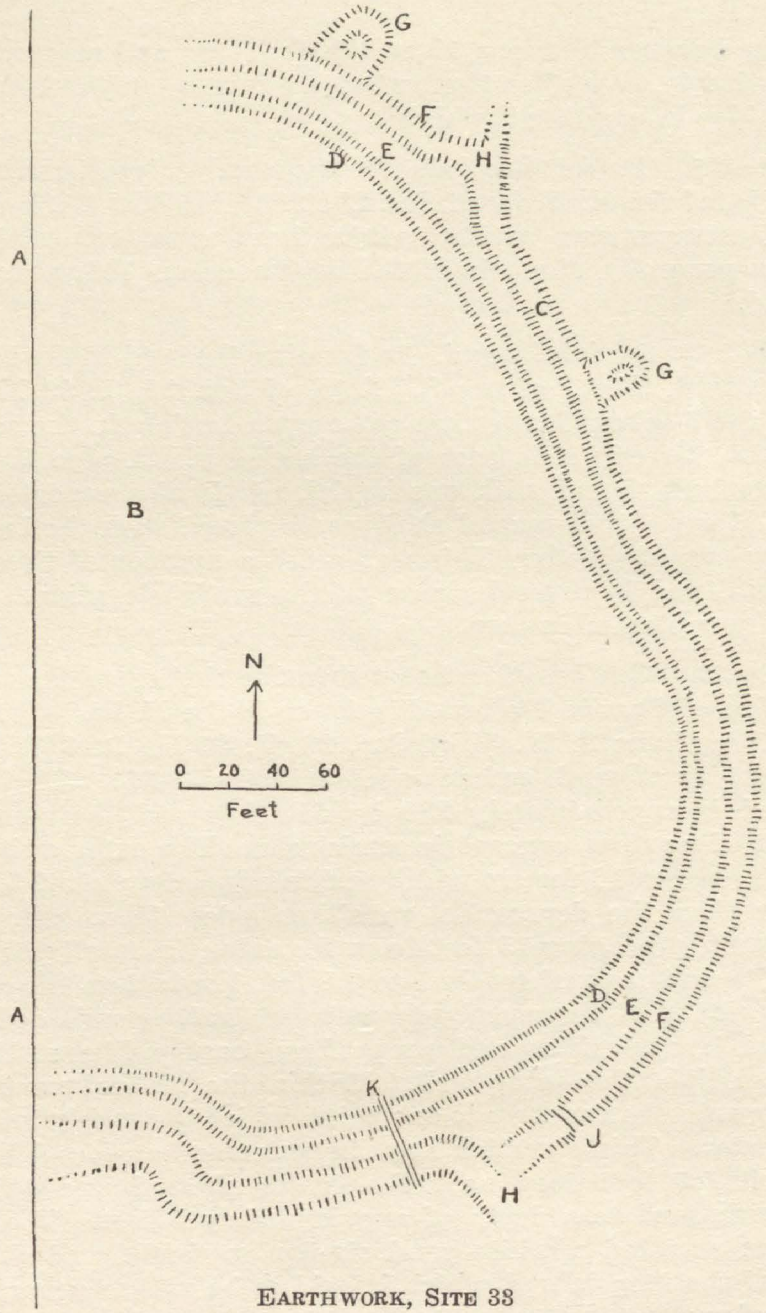
the line between Sections 17 and 8, skeletons and accompanying artifacts were unearthed when a cut was put through the sand ridge in building the highway.

Site 31. Burial Ground. In the sandy elevation in the N. E. ¼ of the N. E. ¼ of Sec. 27, T. 33 N., R. 7 W., burials with accompanying artifacts have been reported. This is known generally throughout the region as an Indian burial ground.

Site 32. Burial Ground. In farming the land in the N. W. ¼ of the S. W. ¼ of the S. W. ¼ of Sec. 26, T. 33 N., R. 7 W., the Morrow family has come upon burials in the sandy elevation, twenty rods east of the highway. A pipe is said to have been found with one burial. It is also reported by U. H. Morrow that mussel shells were placed with the burial, usually over the body. This was noted a number of times in burials found in several places on the sandy elevation. The site is now planted in corn.

Site 33. Earthwork. Located in the timber on the western edge of Charlie Wolbrandt's farm, in the N. W. ¼ of the N. E. ¼ of the S. W. ¼ of Sec. 22, T. 33 N., R. 6 W., are the remains of earth embankments (Plates 33-36). The area covered is approximately 280 by 510 feet and the remains consist of two low, concentric semicircles. The outer embankment averages 12 feet in width and is approximately 2.5 feet higher than the depression on either side. The inner embankment, averaging 15 feet from the outer, is usually 10 feet in width and is consistently 1 to 1.5 feet lower than the outer ridge. Both of these embankments are rather well defined. Several irregularities and protruding, bastion-like embankments adjoin the outer wall. Within the embankment the earth gradually slopes up to one point, which is roughly toward the center. This elevation has been termed a mound but a test pit 5.5 feet deep near the center showed undisturbed yellowish sand to a depth of approximately 5 feet. The last ½ foot revealed a white sand similar to that found at the base of the trench, and which is said to be rather general in the region.

A trench 39 feet long, 3 feet wide, and varying from 1.5 to 4.5 feet deep was thrown across the embankments on the south side where the ridges were in the best state of preserva-



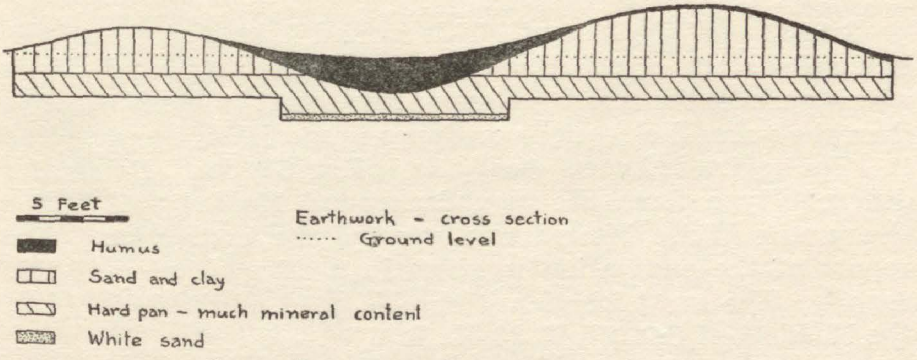
EARTHWORK, SITE 33

[A, fence; B, highest elevation, locally known as mound, but revealed as natural; C, white oak on outer embankment estimated as 200 years old; D, inner embankment about 10 feet wide; E, depression between embankments about 15 feet wide; F, outer embankment about 12 feet wide; G, elevations with slight depressions, adjoining outer walls; H. irregularities; J, drainage ditch; K, trench (see page 29)].

tion. It was hoped that some chance find would aid in dating this structure and at least reveal something of the former structure of the "walls." Not a single clue was obtained. From the small amount of "fill" in the depression between the walls and on either side, it can be surmised that the embankments were never very much higher than they are at present. This deduction is substantiated by the fact that the roots of the oldest trees on the walls are not exposed more than 1 or 1.5 feet. At present the site is covered by timber—the trees estimated to be about 75 years old. The large decayed stumps to be found verify the statement of the present owner that when his father came here almost 100 years ago there was large timber standing on the site. The hogs which now overrun the area are damaging the site by rooting.

Who built these embankments and why, could not be determined by the investigation. The assumption that it is the remains of a fortification is probably correct, but whether built by the early traders or the Indians cannot be definitely determined.

The location is just adjacent to what was formerly the Kankakee swamp. It is assumed that the builders were protected on the west by the water, and the semicircle to the east, said to have been horseshoe shaped and extending to the edge of the marsh, is thought to have afforded protection from the other sides. The location is off the main routes of the early white traders; also, the low, irregular curved walls do not follow the usual form of fortification constructed by white men. The impression obtained is that it is of aboriginal construction.



CROSS SECTION OF EARTHWORK, SITE 33

Site 34. Reported Mounds. Just west and north of a region known as Indian Garden is a sand elevation known locally as a mound. It is 80 feet north and south, and 90 feet east and west. It is now approximately 3 feet above the surrounding ground, which is not sand but a black loam with some sand content. Because of this contrast in earth and color the mound is conspicuous.

A test pit 3 feet square and 3.7 feet deep was placed in the northeast quadrant near the center. The sand had been disturbed by plowing to a depth of 1 foot. The next 1.7 feet were sand with much charcoal content, most of it being found near the plow line. It is possible that the small pieces of charcoal are the result of the burning off of stumps and underbrush. The last foot was white sand with rust-colored streaks. No flint chips, pottery, or other evidence of artificiality were found in this pit. The elevation appears to be natural.

Several hundred feet south of this sand elevation is a low area, formerly swamp, which has low circular and oval elevations thought by the local residents to be Indian graves. Two of these were trenched in an effort to learn whether they were natural or artificial. The first was oval in form, about 9 by 4 feet, and approximately 1.5 feet in height. It had every appearance of a grave, but a trench 3 feet wide and about 2 feet deep revealed it to be natural. The second elevation was circular in form, approximately 10 feet in diameter, and about 1.5 feet high. This also proved to be a natural formation. These elevations are similar to those south of Tremont in "Mound Valley," Site 3. These sites are in the S. W. ¼ of the N. E. ¼ of the N. E. ¼ of Sec. 28, T. 33 N., R. 6 W.

Site 35. Weise Mound. This mound is located about one-half mile north of the Kankakee, on the rolling sand ridges which parallel the river. In many respects it is less distinctive than the natural elevations or dunes immediately surrounding it. The region is known locally as Indian Garden. Being of a different type from the mounds around Malden and Boone Grove, the Weise Mound was selected for excavation. The report of the excavation is given in a later chapter of this report. The exact location is the N. E. ¼ of the S. E. ¼ of the N. E. ¼ of Sec. 27, T. 33 N., R. 6 W.

Site 36. Camp Site and Burial Ground. East of Jim Collier's store, at Baum's Bridge, is an Indian camp site. This is the only place in Porter County, with the exception of the Weise Mound, where pottery was found. In one half hour fifteen small sherds were found; also, two arrowheads and numerous chips and portions of worked flint. With but one exception the pottery is all grit-tempered and seven sherds show cord markings. The other eight sherds may have been similarly decorated but are now too fragmentary to indicate any former decorations. The sherd which is not tempered with grit appears to have been tempered with a material which has disappeared, probably when subjected to heat. There are cell-like cavities remaining and a cross section shows it to be flaky in appearance rather than granular. The inner surface is exceptionally smooth although there are many small pit-like depressions. A portion of the outer surface has flaked off, but that remaining appears to have been cord marked.

The site is located in the S. ½ of the S. W. ¼ of the S. E. ¼ of Sec. 26, T. 33 N., R. 6 W., on the sandy elevation adjacent to the Kankakee. Several burials have been found by Jim Collier in the immediate vicinity. One, he says, was in a sitting posture.

Summary

None of the mounds of Porter County are of unusual proportions. They range in size from small, low tumuli which are scarcely perceptible, to the Wark Mound which is one hundred feet in diameter and ten feet high. Seven groups of mounds were located. One group contained at least ten tumuli; another four, and another three. A total of twenty-one mounds was established. There are probably some which have not yet been discovered, particularly in the Kankakee region. The mounds are located on natural elevations usually adjacent to a stream or to what was formerly marsh land. All except Site 28 showed evidence of previous digging.

Village and camp sites are most disappointing. Flint flakes or fire-cracked stones are about the only remaining evidence of reported sites. Few artifacts were found by the survey, probably because they never were present in great abundance and partly because of the diligence of the local collectors. Pottery was found only along the banks of the Kankakee, and

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has never been found or reported from the northern nine-tenths of the county.

Earthworks were confined to a single structure, located just north of the Kankakee (Site 33, Plates 33-36). It consisted of two low concentric embankments, roughly semicircular in ground plan. Though excavations were made, little could be determined and its origin and function are a matter of conjecture. In describing the topography of the Weise Mound, a circular depression is mentioned, but its present condition does not warrant its inclusion as an earthwork.

Information regarding trails was obtained by J. C. Allman from a number of old maps in the files of the Public Library at Gary, Indiana. They are probably of the early historic period, otherwise it would be difficult to account for the number radiating from Valparaiso, the present county seat. No evidence now remains of these former trails.

Skeletal material has been accidently unearthed in a number of localities (Sites 1, 4, 30, 31, 32, and 36.) Artifacts are said to have accompanied these burials in most cases, but none of this material was available for examination. There was no evidence of mounds at any of these sites. Excavations might have proved interesting, but locating material would have been a matter of accident.

EXCAVATIONS

Following the practice established by the Indiana Historical Society of making sufficient excavation in each county surveyed to determine existing cultures, four mounds were first selected in Porter County for excavation, namely, the Smith, Douglas-Hiatt, Vergin, and Weise mounds (Sites 17, 20, 28, 35). However, after two days' work, excavation on the Smith Mound was abandoned as unpromising, and excavation of the Douglas-Hiatt Mound revealed no artifacts, skeletal material, or pot sherds. In view of this fact, the results of these excavations have been embodied in the previous chapter on the survey proper, and the present chapter is devoted to the more extensive excavation of the Vergin and Weise mounds (Sites 28 and 35). The definite location of these has been given in the previous chapter.

Vergin Mound. The mound was staked in 5-foot squares; a transit set up, and a datum plane established approximately half a foot above the central point of the mound. All measurements of depth were taken from this plane, thereby assuring comparative accuracy. Excavation was begun on the east.

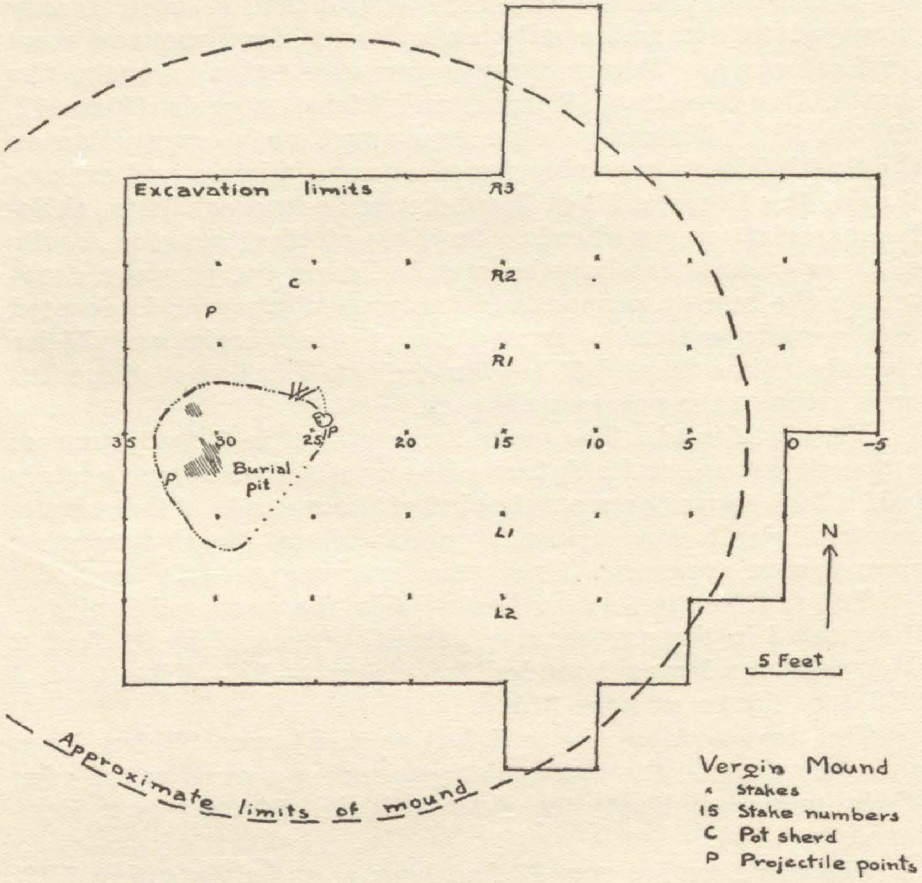
The first section was taken outside the supposed limits of the mound in the northeast quadrant. It was 5 by 15 feet, 2 feet deep, and was bounded by stakes —5, —5R3, 0, and 0R3 (see figure on page 36).

The next section (0- to 5-foot section) was 25 feet long, and according to the surface appearance we were at the edge of the mound, but nothing of an artificial nature was encountered.

The third section was 30 feet long, bounded by stakes 5R3, 5L3, 10R3, and 10L3, and at the 10-foot stake was 3.5 feet deep. On the 10-foot face the humus line could be distinctly traced to a depth of about 1 foot. At an average depth of 1.5 feet a very faint and indistinct line was marked out. This was undoubtedly the hard, lighter colored stratum which may have been former ground level.

So far only three flint flakes had been found and a few small pieces of charcoal, all comparatively near the surface. In the fourth section, which was 45 feet long and from 2 to 8

feet deep, flint flakes and charcoal were found and the first definite lines of stratification could be seen on the 15-foot face (see page 38). The top soil or humus averaged .665 of a foot in depth. Beneath this was a hard yellow clay which bore practically no indication of disturbance. In the center it was 3



GROUND PLAN OF VERGIN MOUND, SITE 28

feet in depth, but on either end of the face it was only about 1 foot deep. Delimiting the base of this area was a comparatively straight line which was marked in spots by a thin band of charcoal or humus material. In places the line was indistinct. Beneath this line was an area ranging from ½ foot to 2 feet thick. This area was distinctive for its greater compactness and hardness and its lighter color. A pick

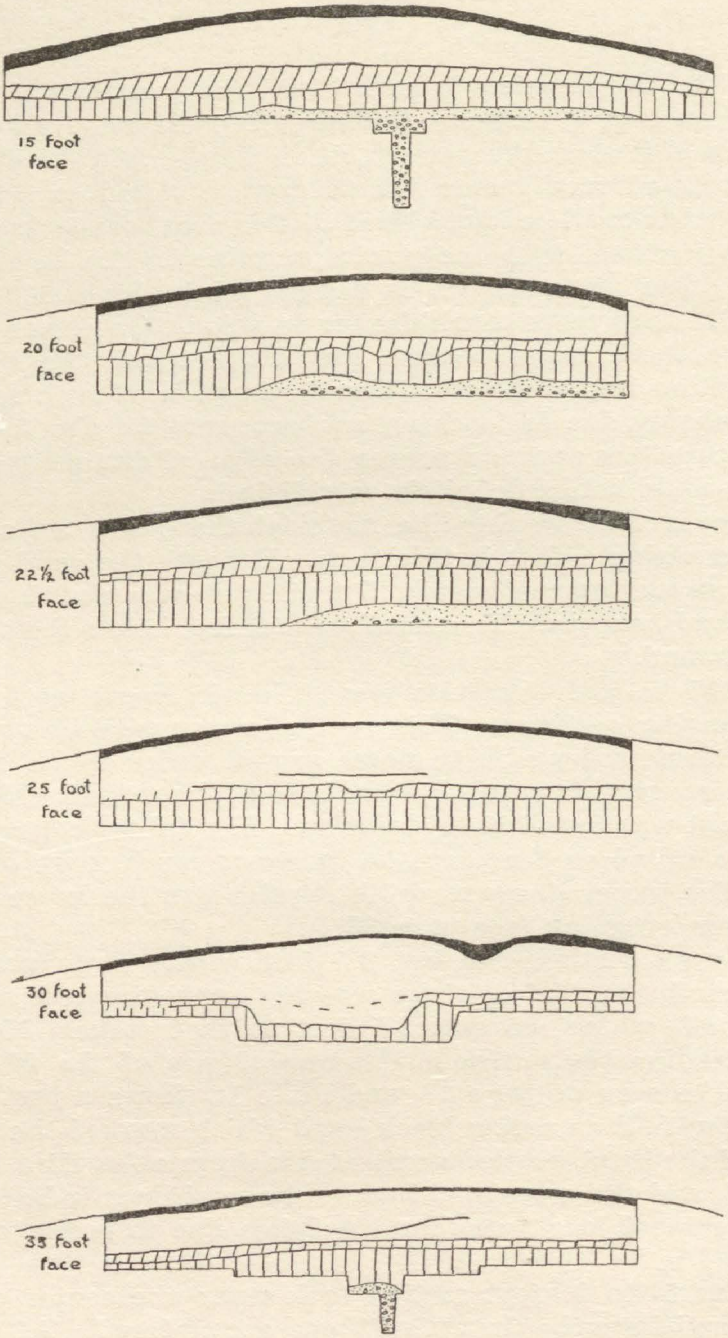
wielded by the huskiest laborer could not penetrate this area more than 2 or 3 inches. Ordinary shovels were practically useless and it was necessary to obtain small, thick-bladed, and sharp-pointed implements. This area is noted on Plate 11 by the figure 2. The lower limit of this area was so indistinct that its juncture with the glacial moraine had to be approximated. The natural area is designated in Plate 11 by the figure 3. It appears much darker in color. On either end of the face these areas become less distinct and the lines of demarcation imperceptible. The destruction of such features was probably due to leaching and accounts for the fact that in the previous sections nearer the edge of the mound artificiality could not be definitely established.

Beneath the moraine-like material there was an area of sand averaging a foot in thickness. Beneath the sand a stratum of gravel approximately 5 feet thick was noted, with a white sand beneath. This sand was 12 feet below the surface of the mound.

The 15- to 20-foot section was 30 feet in length, as were all the following sections. This section was made several feet deeper than was probably necessary in order to be certain that the excavation was below the base of the mound. Nothing of interest was found in this section. The lighter colored central area noted on the previous face was much more distinct here. The upper line was quite regular but the lower limits were very irregular (see page 38).

The next section was but 2.5 feet wide. From outward appearances the 25-foot stake was the approximate center of the mound, which left but 2.5 feet to that stake. Nothing was noted in this section. The appearance of the 22.5-foot face can be seen on page 38, and Plate 12 shows a portion of the face with the narrow black band which marked the upper limits of the hard, burned area. Aside from a few flint flakes, charcoal, and the occasional humus-charcoal lines indicating a former ground level, we found nothing else to indicate artificiality.

The 22.5- to 25-foot section took us to the center of the mound, and here the first "find" was encountered. After the top layer had been removed and the workmen were beginning on the second horizontal layer, a portion of a skull was encountered. As the skeletal material was much softer than the



CROSS SECTIONS OF VERGIN MOUND

earth, it could not be "felt" while digging and was only noticed when the earth was examined. A small projectile point (a, page 41) was found in association with the broken portion of the skull. Its exact relationship could not be determined. Working with small brushes and orange-wood sticks the remainder of the skull was delineated and measurements and orientation taken. The facial region, however, was missing. This had not been removed by shovels, for only the right temporal region had been damaged.

Nothing else was noted in this section, but a most interesting feature appeared on the 25-foot face. Directly beneath the skull and approximately 4 feet from the surface a small depression was noted on what was probably the former ground level (see figure on page 38 and Plate 13). It was approximately ½ foot deep and 3 feet wide, and its lower limits were very clearly delineated. The depression had been filled with the clay generally found, but intermixed with some darker material, probably humus and charcoal. Also on the face, 7.5 inches from the surface and 2 feet from the skull, bone could be seen which was in a decayed powdery condition. In excavating the next section, this was determined as the proximal end of the right femur.

The next section was again 5 feet in width. From the indication of bone visible on the 25-foot face, the direction and location of the leg bones could be traced out. These bones were in a very fragmentary and broken condition, except for a portion of what was probably the left femur, at the place where it passed under the right tibia. The bones were in a flexed position.

Regarding the entire burial, the skull was .46 of a foot from the surface; the center of the skull was 5.7 feet from stake 30, 7.3 feet from stake 30R1, and only a few inches from the 25-foot stake which had been chosen as the center of the mound. The skeleton was lying on its left side, with the top of the skull in a southeast direction. The flexed leg bones were northwest of the skull at an average distance of 2.5 feet. The long axis of the burial was in a southeast-northwest direction, paralleling the long axis of the natural elevation on which the mound was located. The burial was also in the exact observable center of the mound at a depth of ½ to 1 foot. One cervical vertebra was found under the skull; all others had deteriorated. There were no arm bones, hand

bones, ribs, pelvic, or toe bones. As noted above, the mandible, maxillary, and other facial bones were missing. Approximately 1 foot lower than the burial and at a point which was ½ foot southwest of where the right patella should have been, a group of teeth was found. The bones had disintegrated, but the teeth were in occlusion. These teeth undoubtedly belonged to this skeleton. One can only account for this detached position on the supposition that a rodent's hole passed through the facial region with the result that the maxillary and mandible were detached and lodged together in the base of the hole. This would not be so puzzling if the teeth had not been found in occlusion. This skeleton was undoubtedly a later burial, although a careful examination did not reveal an intrusive pit. Because of its proximity to the surface, the skeleton was undoubtedly subjected to continual freezing, thawing, and moisture. This, according to Dr. Krogman, would cause more rapid deterioration than burials more deeply imbedded in a mound.[20] As this burial was in much better condition than those in the central pit described below, it had undoubtedly been interred after the construction of the mound.

The only piece of pottery found in the mound was obtained in this section. It was 2 feet from the surface, 5.5 feet from stake 30R1, and 5.2 feet from stake 30R2. It was a very small crude fragment of coarse grain with grit tempering.[21]

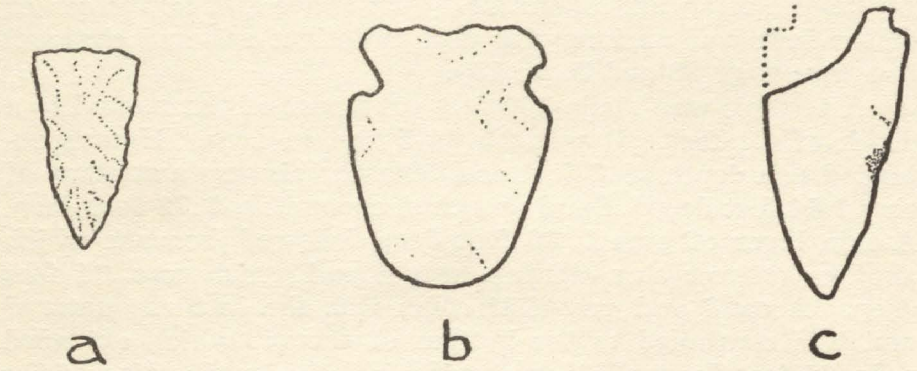
On the 30-foot face the depression which had been noticed on the previous face was very large and prominent. It ranged from 1.5 to 2 feet deep and was approximately 10 feet wide (Plates 14-15). The clay with which it had been filled was mixed with much humus, charcoal, and ash material, making the pit very distinct. On the surface just north of the center of the face was a noticeable depression caused by a decayed tree stump. This was the only break in the contour of the mound.

The 30- to 35-foot section was the last removed. A gnawed animal bone was noted ½ foot from the surface, 2 feet north of stake 30L1. This was undoubtedly due to a rodent. A projectile point, symmetrical in shape but very crudely made, was found at a depth of 3 feet in the approximate center of the square bounded by stakes 30, 30L1, 35, and 35L1. Another

[20] See Dr. Krogman's report on skeletal material, Appendix I.

[21] The finding of this small fragment is a credit to the careful work done by the local men, who remained interested and observant in the face of very discouraging circumstances.

arrowhead, with only the point remaining, was 3.9 feet deep, practically on the surface of the hard, burned area. It was located 5.5 feet from stake 35R1 and 5.4 feet from stake 35R2. Of the three points found, it displayed the finest workmanship, but nothing more unusual than the ordinary points found in collections.



PROJECTILE POINTS FROM VERGIN MOUND

[a, triangular point associated with later, intrusive burial; b, c, points lost during construction of mound]

In this section the curved limits of the central depression were fairly distinct on a horizontal plane. Very badly decomposed skeletal material was discovered, but even on exposure to air it did not harden and it was utterly impossible to delineate burials. It was located at a depth of 5.7 feet from the surface, which was practically at the base of the depression (see shaded area in figure, page 36). It was so powdery that it had to be minutely examined to be recognized. In the small shaded area to the northwest of stake 30 there were indications of teeth. Tiny fragments of enamel were encountered and in brushing this material the molds of two molars were disclosed. The hard clay had formed casts about these teeth. The bone had decayed, but a few fragments of enamel still adhered to the casts, sufficient to indicate that they had been molars.

No artifacts of any kind were found with the burials, though all the earth was carefully pulverized. It was impossible to determine the number of burials, but the impression given was that several burials, whether bundle or articulated, were placed in the pit over which the mound was built.

On the 35-foot face there was no further indication of a depression. The hard compact area extended straight across the mound in an unbroken line. Just above and on the center of the face was an irregular and indistinct ash and charcoal line (see page 38 and Plate 16).

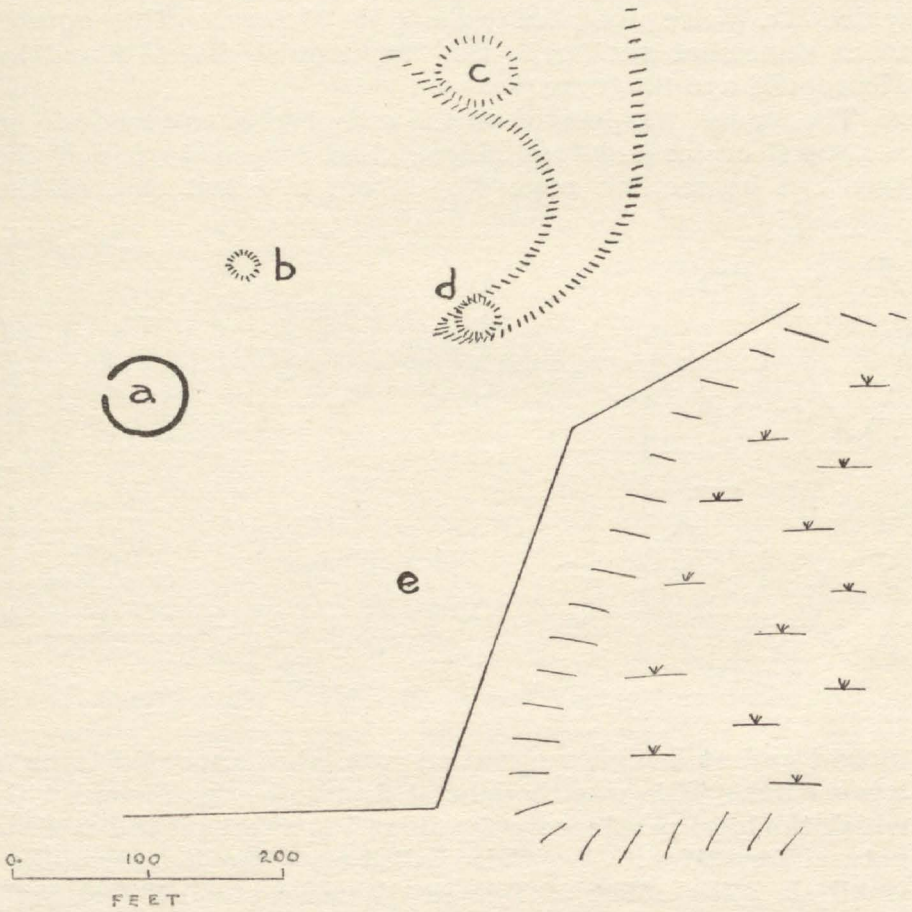
A test pit was made 100 feet southeast of the mound to a depth of 4.4 feet. It was 2.5 by 5 feet in area. Humus extended to a depth of .6 foot and beneath this was a stratum of clay 1.64 feet deep. Sand was then encountered .78 foot deep. A thin layer of gravel .36 foot deep followed, beneath which another narrow clay stratum was found which was .34 foot deep. A sand and gravel stratum was the last encountered and this continued to the bottom of the pit which extended only .66 foot deeper. A comparison of the stratification of the pit with that of the mound indicates that the hard, lighter-colored stratum of the mound was probably former ground level. The strata are in the same sequence, except for the thin layer of clay between the gravels. The thickness of the different strata vary, but even within the mound, variation was noticed on the different faces.

To summarize: mound located on natural elevation; fire on area where pit was to be dug and mound built; central pit to which burials were limited; no artifacts which could withstand decay placed with burials; one small piece of grit-tempered pottery and two crude arrowpoints dropped while building the mound; later intrusive burial ½ foot from summit of mound. These features are not sufficient to relate this tumulus to any of the established mound cultures. The construction of the mound, particularly the central burial pit, is similar to the mounds 1½ miles east of Boone Grove.

Weise Mound. Mr. Albert Weise, on whose land the mound was located, was most willing to allow the state to excavate. His coöperation and interest are typical of his public spirit and unselfish attitude.

At the time of excavation the mound was planted in corn which it was necessary to shock. The area was first plowed

in 1925 and has been plowed twice since then. It was thought by the local residents that the mound had been dug into several times, but information could be obtained only regarding an excavation made in 1908 by Charles Wilcox. He is said to



GROUND PLAN OF AREA SURROUNDING WEISE MOUND, SITE 35

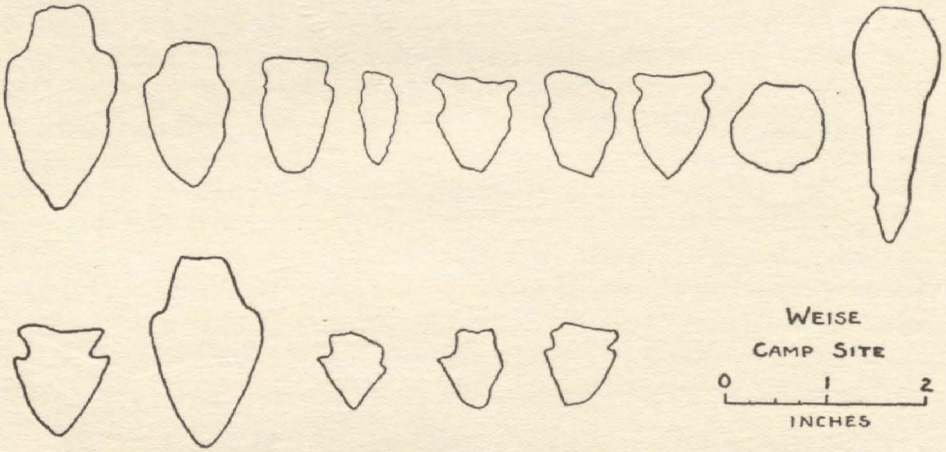
[a, circular depression, 66 feet in diameter; b, c, natural elevations; d, Weise Mound; e, cache where 24 disk blades were found]

have come upon about six skeletons, but what disposition he made of them and whether he found any artifacts is not known. Due to the nature of the soil it was difficult to locate any intrusive pits.

At the time of the first plowing a cache of flint blades or ceremonial disks was found about 225 feet slightly north of

west from the mound. Twenty-four of these blades were found buried side by side at a depth of approximately ½ foot. They averaged about 5.75 by 3.75 inches and were .38 inch thick. The flint of which they are made is dark in color and fine grained (Plates 28 and 42). Only three remain, one of which Mr. Weise presented to the State Museum. They appear to be somewhat similar to the "ceremonial disks" found by Moorehead and Shetrone.[22]

The mound was located on the end of what appeared to be a natural crescent-shaped ridge. The general layout of the area can be seen on page 43. About 200 feet east of the



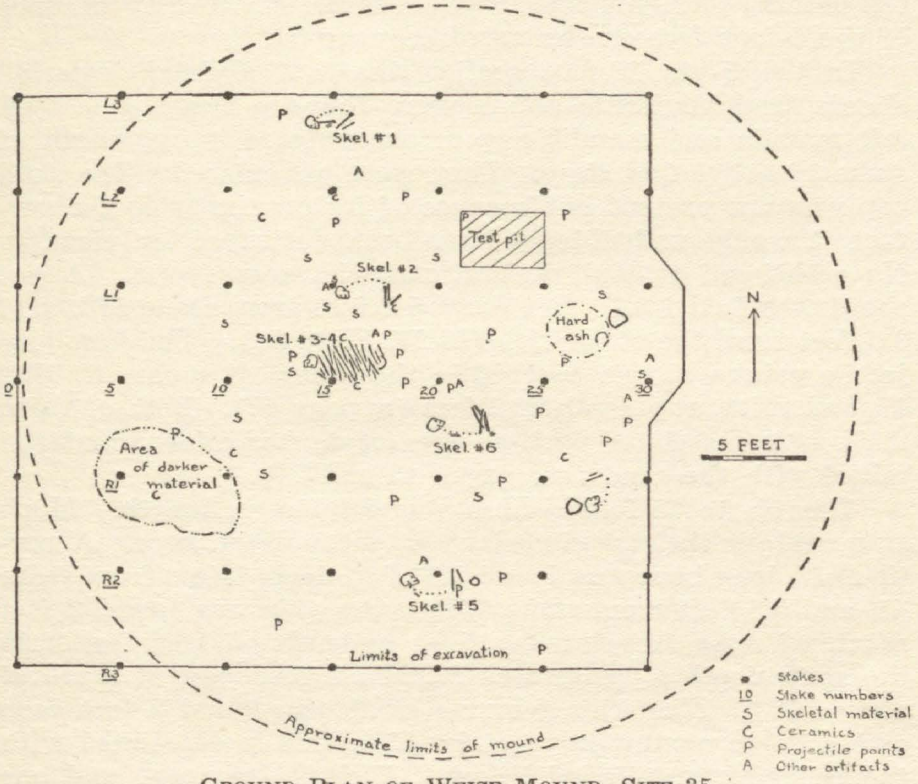
PROJECTILE POINTS FOUND IN VICINITY OF WEISE MOUND

mound and at a higher elevation was what appeared to be a low mound. This was thought at first to be the mound with which the local people were familiar, but a test pit indicated a natural formation. Mr. Weise called my attention to another small elevation about 30 feet in diameter and 1.5 feet high (b, page 43). Excavation proved it to be natural.

A feature which I believe to be artificial consisted of an area 66 feet in diameter marked off by a trench or circular depression about 1.5 feet deep and 3 feet wide. According to Mr. Weise, this depression did not completely surround the area, there being a break east of north. Although it was

[22] Moorehead, Warren K., *The Hopewell Mound Group of Ohio*, 95, Plates 42-43 (Field Museum of Natural History, *Publications, Anthropological Series*, 6:no. 5, Chicago, 1922); Shetrone, Henry C., "Explorations of the Hopewell Group of Prehistoric Earthworks," in *Ohio Archaeological and Historical Quarterly*, 35:no. 1:136, Plate 65.

difficult to visualize this feature as it formerly appeared, it seems to be almost identical with the inclosure illustrated by Shetrone.[23] Lack of time prevented any attempt at excavation.



GROUND PLAN OF WEISE MOUND, SITE 35

Many pot sherds, flint chips, and projectile points (page 44 and Plate 32) were found in the field surrounding the mound, even though much collecting had been done previously. Formerly there was a swamp just to the south which is said to have been a great hunting and fishing ground. As the land to the north was also less elevated, with occasional marshes, this sandy ridge paralleling the Kankakee was the best available camping ground.

The mound appeared to be about 40 feet in diameter and approximately 3 feet high. It was difficult to determine how much was natural elevation and how much artificial.

After staking the mound, excavations were begun on the

[23] Shetrone, Henry C., *The Mound Builders*, 187, Figure 114 (New York and London, 1930).

west with a north-south trench 30 feet long and 5 feet wide, and averaging 3 feet deep. Flint chips and charcoal were noted to a depth of about 3 feet in the center of the trench, but nothing of significance was encountered. The appearance of the 5-foot face can be noted on page 54.

In the 5- to 10-foot section the first skeletal material, sherds, and projectile points were found. *Skeleton 0.*[24] A left maxilla and mandible were encountered 3 feet north of stake 10 and 1 foot deep. They were articulated. The skull cap was not present but because of its proximity to the surface it would undoubtedly have been destroyed by plowing. No additional related skeletal material was found. A pot sherd was found 3.17 feet deep, 5.2 feet from stake 5R2, and 3.5 feet from the stake 5R1 (M-27, Plate 31). The first projectile point was encountered in the center of square 5, 5R1, 10, and 10R1, at a depth of 2 feet (n, page 47). Both of these finds were associated with an area of darker colored material mixed with the sand (see pages 45 and 54).

The 10- to 15-foot section was 30 feet in length. Much fragmentary skeletal material was encountered here. A portion of a long bone was found 1.58 feet deep, 5 feet from stake 15, and 5.5 feet from stake 15R1. An axis was found 2 feet north of west from stake 15 at a depth of 1.75 feet. At the same depth a femur was found 1.2 feet west of south of stake 15L1. Near this femur a skull was found 2 feet deep and 1.5 feet northwest of stake 15. This is associated with the reburials mentioned below. A skull fragment and one premolar were located 1.8 feet northwest of stake 15L1 at a depth of 1.75 feet. A portion of a skull including the left mastoid was 3.25 feet west of stake 15R1 at a depth of 3.75 feet.

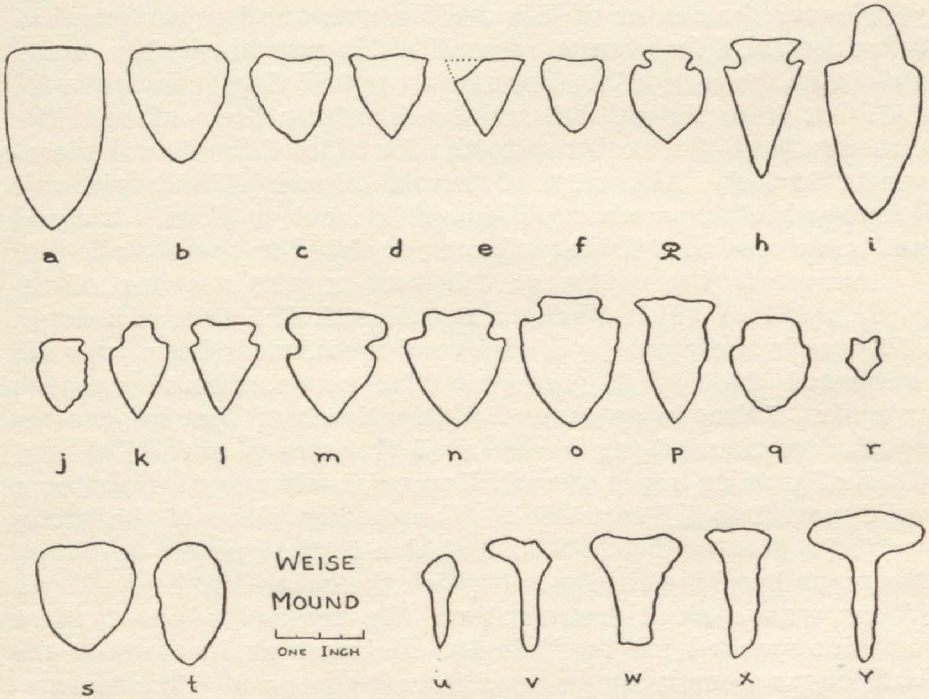
A small grit-tempered sherd was found 1.2 feet east of north from stake 10R1 at a depth of 3.85 feet. A similar sherd with cord marking was found 3 inches deeper. Another large sherd, also grit tempered and cord marked, was found 5 feet from stake 15L1 and 3.6 feet from stake 15L2 at a depth of 2.85 feet.

Three projectile points were found in this section, all at practically the same depth. One was in the center of the square bounded by stakes 10R2, 10R3, 15R2, and 15R3 at a

[24] Skeletons thus italicized are reported on by Dr. Krogman in Appendix I.

depth of 2 feet. A second was 2.3 feet northwest of stake 15, 1.58 feet deep. The third was 4.8 feet from stake 15L2, and 2.5 feet from stake 15L3 at a depth of 2 feet. Flint chips, charcoal, and ash were scattered throughout the section.

In the 15- to 20-foot section fragments of skeletal material were again encountered and remains of articulated burials were also found. *Skeleton 1.* In the left end of the previous



PROJECTILE POINTS FROM WEISE MOUND, SITE 35

section a skull had been located 6.33 feet from stake 20L3 and 7.08 feet from stake 20L2, at a depth of 2.85 feet. As it appeared to belong to an undisturbed burial which extended into the next section, it was covered and allowed to remain until we came to this section. It proved to be a flexed burial placed on its right side. In addition to the skull, which was badly broken when encountered, there were remnants of a humerus, ulna, radius, femur, and tibia. Two cervical vertebrae, one in comparatively good condition and the other very fragile, were found beneath the skull. No other part of the skeleton remained. The figure on page 45 indicates orientation and the manner of flexing. From the skull cap to the

approximate distal portion of the tibia the burial measured 2.25 feet. About the lower portion of the jaw were 18 crude flint flakes. There was nothing distinctive about them. The burial was lying on what was probably the base line of the mound. No artifacts were in immediate association, but 2 feet southeast and on a plane slightly above the burial was the best cache of specimens found in the mound.

Nearer the center of this section was another undisturbed flexed burial (Skeleton 2, page 45). It was also lying on its right side facing south. The skull was 6.75 feet from stake 20, 4.75 feet from stake 20L1, and 3.4 feet from the surface. The distance from the skull cap to the far side of the femur measured 2.54 feet. About 1 foot from the head of the burial and 4 inches higher was a small copper gorget or plate. It could not be determined whether this was related to the burial.

Almost in the center of this section was a group of reburials (Plate 18). *Skeleton 3.* The skull found at a depth of 2 feet in the previous section, and mentioned above, was the westward limit of this group. The bones covered an area roughly 3.5 feet in an east-west direction by 2 feet in a north-south direction. Long bones, skull fragments, and other portions of smaller bones were indiscriminately mixed, forming a solid mass 1 to 1.5 feet thick. The eastern plane of the group was at a greater depth, 2.75 feet, due to the greater height of the mound and lower plane at which the bones had been placed. There was a skull fragment on the eastern edge of these remains marked "4" in Plate 18. Between skulls 3 and 4 the long bones were lying in a northwest-southeast direction and after brushing and attempting to delineate, 35 long bones could be counted on top. Skull number 3 was in the best condition, the remaining bones being more fragile and fragmentary. Though the bones on top were all lying in practically the same direction, those beneath were in all directions. A number of pot sherds were found in association with this bone mass. It was not possible to ascertain whether these burials were made by the Indians or by comparatively recent "pot hunters." Mr. Setzler believes that recent excavators probably would have retained the skulls and suggests that these burials may be old.

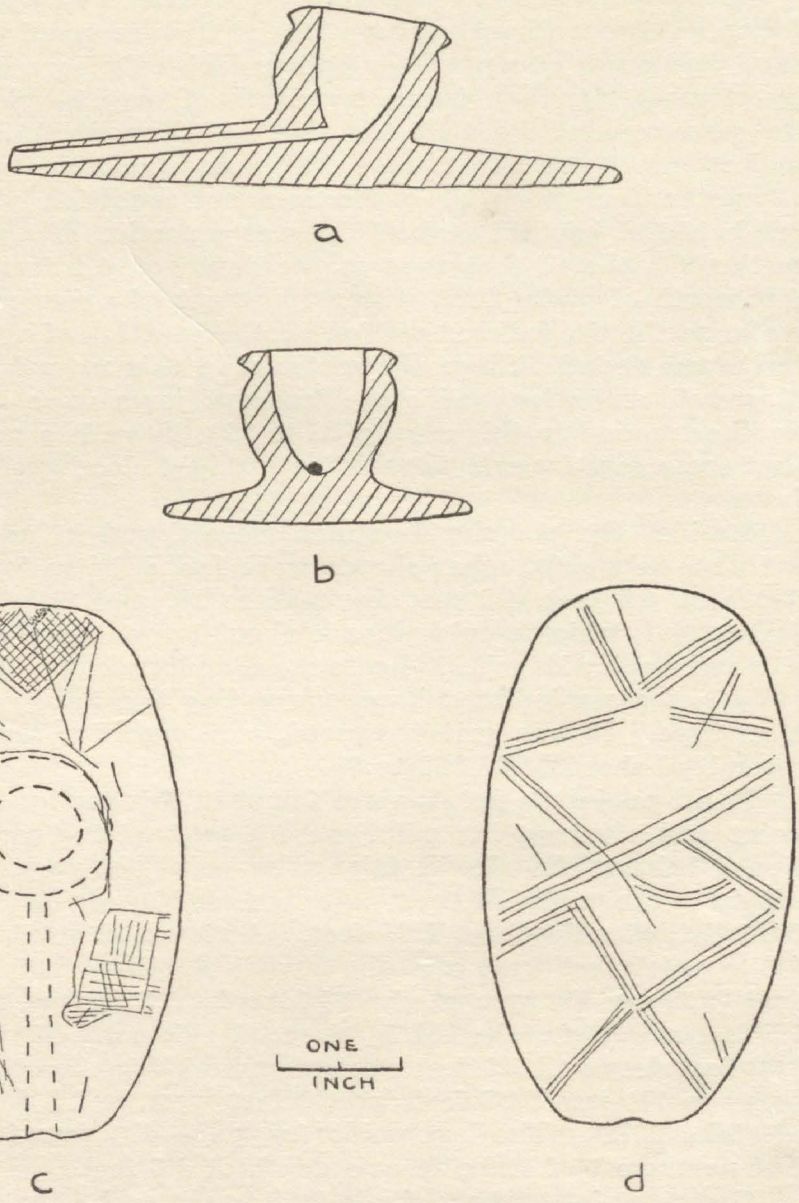
Two other skulls were encountered near the bottom of the face of this section, but as there was a possibility of their belonging to complete burials they were left *in situ.*

In the next section fragmentary portions of skeletons were found. Almost directly above Burial 2 were small pieces of skull and other bones. They had undoubtedly been disturbed by plowing, for they were at a depth of only 10 inches. In the same square, about 1.5 feet north of the central bone mass and at a depth of 2 feet, were a tibia and fibula and a portion of another long bone, all in fragmentary condition. Two and one-half feet beneath stake 15L1 was a portion of a jaw with teeth. On the 20-foot face at the depth of 4.4 feet and 1.5 feet north of stake 20L1 was a fragment of a jaw and three molar teeth. In the next section another portion of a jaw with teeth was found. Since the material in this mound suggests Hopewell affiliation and since two cut jaws were found in another mound in this county (Site 22), there is a possibility that these jaw fragments with teeth might also have been cut jaws.

Besides the pot sherds which were found in association with the reburials, other sherds were found. One found at a depth of 4.5 feet, 4.9 feet from stake 20, and 2.4 feet from stake 20L1, which would place it about 1 foot below Burial 2, was sufficiently large to indicate the complete shape. It apparently had a semipointed base, suggesting the Eastern Algonkian type. It was grit tempered, cord marked, and closely resembled sherd M-24, Plate 31.

Eight projectile points were found in this section. A drill point and a triangular point were a part of the cache mentioned below. An almost triangular point (b, page 47) was nearly in the center of the square bounded by stakes 15, 15L1, 20, 20L1, at a depth of 2.75 feet. A stemmed point (i, page 47) was 1.5 feet west of stake 20 at a depth of 3.08 feet. A drill (x, page 47) was on the 15-foot face, 3.66 feet deep and 1.5 feet south of stake 15L2. A small side-notched point was 3.33 feet deep and 1.5 feet west of stake 20L2. Another point (o, page 47) was 3.25 feet deep, 2 feet west, and 1 foot south of stake 20R1. The last point (m, page 47) was found 2.5 feet northwest of stake 20 at a depth of 4.5 feet.

The most interesting single find was a cache containing a platform pipe, a banded slate gorget, a drill point, a triangular point, two shell beads, and a clay muck, which apparently was an unbaked pipe. This group was 2 feet deep, 4 feet from stake 20L2, and 5.5 feet from stake 20L3. The gorget was first encountered. It was made from banded slate, symmet-



PLATFORM PIPE FROM WEISE MOUND

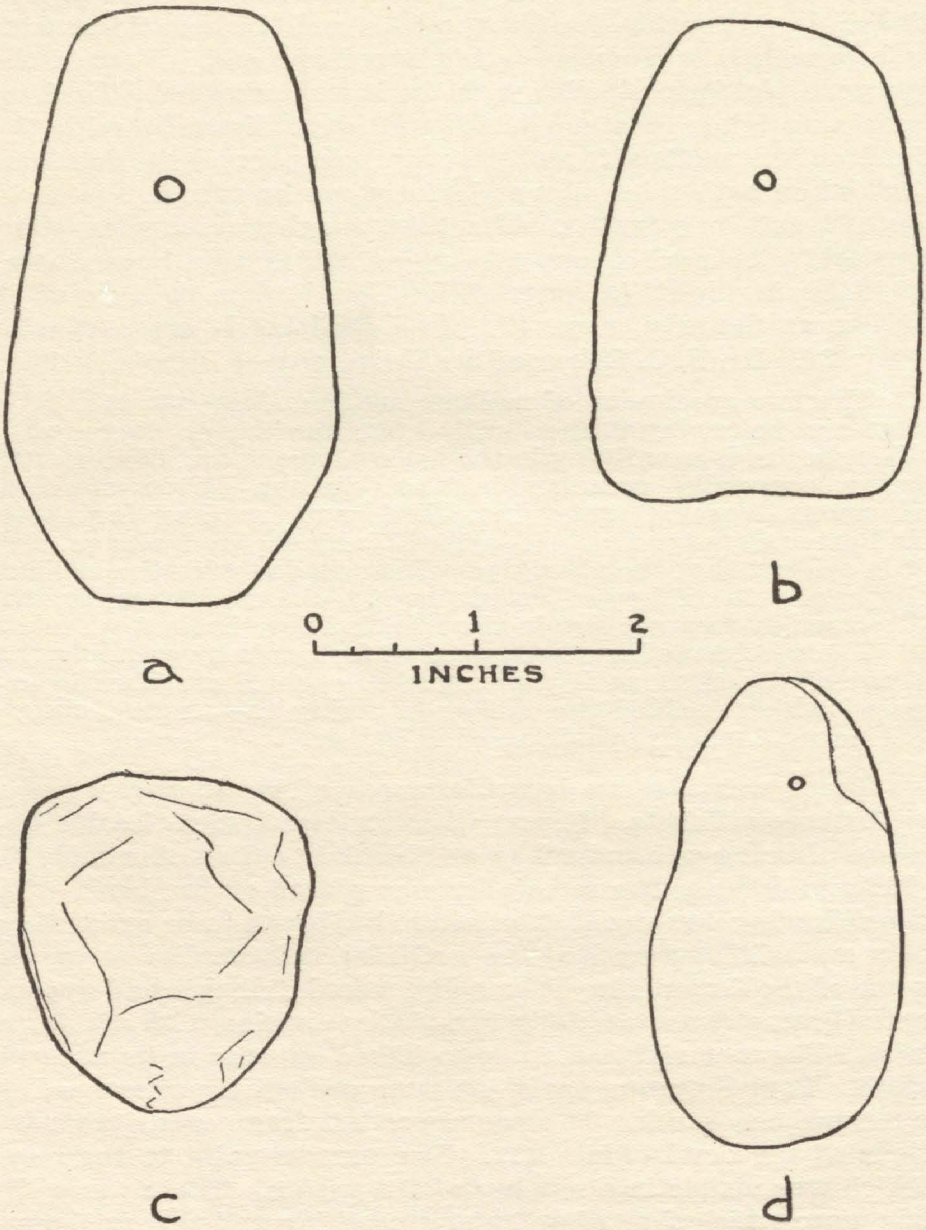
[a, b, cross sections; c, upper side showing fine incised lines and animal-like figure; d, under side showing incised lines which form a rough geometric design]

rically shaped and carefully finished (b, Plate 28). It is 4.13 inches long, 2 inches maximum width, and .25 inch thick, with a hole, which is counter sunk, toward one end. Next to the gorget a platform pipe lay with the bowl downward. The long axis was lying in a northeast-southwest direction with the bore on the northeast end. The size, shape, and the fine lines incised on both sides of the platform can be seen in Plates 23 and 24 and on page 50. The thin, roughly triangular point is slightly beveled on opposite edges, which may have caused twirling in flight (a, page 47). The broken drill point is shown as figure v, page 47. Two shell beads are shown in Plate 27. Dr. F. C. Baker, of the University of Illinois, writes:

The two specimens of mollusk are *Anculosa praerosa* Say, a species belonging to the family Pleuroceridae or river snails. This species is now living in the lower Wabash and Ohio rivers, being especially common in the Wabash River at New Harmony, Posey County, Ind. It is not found as far north as Porter County, which is in the Illinois River drainage, and it is evident that the aborigines either traded with the Indians farther south or they collected them on canoe trips southward. The species does not live in the Illinois River basin.

The specimens have been worked for beads by grinding the front of the shell until the large body whorl chamber is exposed which enabled the maker to string the shells through the natural mouth opening and this hole.

There was also an irregular mass of black, sticky muck with these artifacts. It was without form but noticeable because of being wet and sticky and black in color. A sample of this was taken. The remainder was placed on the bank. On the following day one of the visitors happened to be examining this material and noticed the artificial and peculiar shape of some of the fragments. It was discovered that this had apparently been at least partially formed into a pipe with platform base. The material had not been baked but was in its natural state. Paul Simpson, assistant state geologist, pronounced it a natural clay muck. The two upper left fragments show portions of the bowl (Plate 25). The arrows point to the bore which was visible in a number of fragments. There was only one piece which showed an outer smoothing and that is shown in the lower left-hand corner of the same plate. The two lower right-hand fragments formed one piece containing a straight bore 3 inches long. This was intentionally broken for photographing to show the bore at both ends. Associated with this



SLATE GORGETS FROM WEISE MOUND

[Lower left specimen crude and unfinished]

cache were a few sections of long bones, too fragmentary to identify. If these objects had been placed with a burial, no evidence of the fact remained.

In the approximate center of the square bounded by stakes 15, 15L1, 20, and 20L1, at a depth of 1.5 feet, were two copper tubular beads (b, page 59; Plate 27). They were made of thin sheets of copper which had been rolled to form a bead. One was 2 inches long and .25 inch in diameter. The other was 2.13 inches long and .29 inch in diameter.

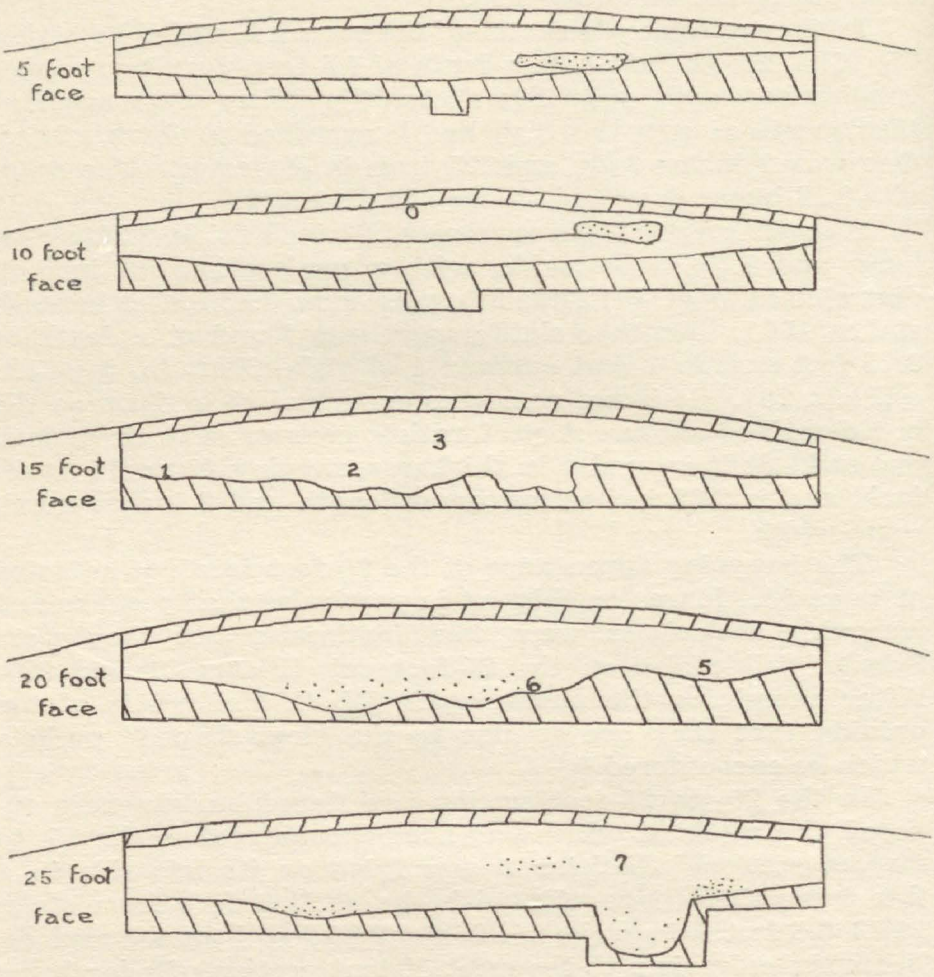
A small copper plate or gorget, .03 inch thick, 2.38 inches long, and 1.19 inches wide, with a perforation .13 inch in diameter (a, page 59; Plate 27), was found 3.13 inches beneath stakes 15L1. Another slate gorget was found at a depth of 3.75 feet exactly 1 foot northwest of stake 20R2 (b, page 52; c, Plate 28). It is not nearly as symmetrical in form as the one described above. A perforation, counter sunk, is toward one end. It is irregular in thickness, ranging from .15 to .25 inch, and is 3.32 inches maximum length and 2 inches maximum width.

The irregular appearance of the 20-foot face can be noted on page 54. It was on this cut in particular that peculiar and irregular dark lines were most noticeable but they were faintly visible also on the 25-foot cut (Plates 21 and 22). After examining the photographs, W. C. McKern is of the opinion that they are similar to the "lens-shaped" pockets which he encountered.[25]

In the 20- to 25-foot section two flexed burials were exposed, the skulls of which had been encountered in the 15- to 20-foot section. *Skeleton 5* was lying on its left side in a flexed position (page 45), with the skull 8 feet from stake 25R3, 6.5 feet from stake 25R2, and 2.85 feet from the surface. From the calvarium to the most distant portion of a leg bone, a tibia, the burial measured 3 feet. The central portion of a femur, a tibia, and a very small fragment of a humerus were all that could be delineated in addition to the skull. Between the femur and tibia a rather nicely shaped and finished projectile point was found (g, page 47).

A pot had been placed at the foot of the burial but was in fragments, having been crushed by the weight of the earth. It was poorly made and the grit tempering so large that even

[25] McKern, W. C., *A Wisconsin Variant of the Hopewell Culture*, 205 (Milwaukee Public Museum *Bulletin*, Vol. 10, No. 2, Milwaukee, 1931).



CROSS SECTIONS OF WEISE MOUND

the fragments had to be cemented before handling. It was partially reconstructed and measurements approximated. It was probably 6 inches high with a rim diameter of 5 inches and a maximum body diameter of 6.75 inches. The entire pot was cord marked with a design of small punctate depressions around the neck, which were probably made with a twig about the size of a match stick (M-53, Plate 31). This was undoubtedly used as a cooking pot for it was caked with soot, most of it peeling off the lower sherds where it was thickest, but adhering to the neck.

The slate gorget mentioned in the previous section, which was found about 1 foot from the skull and a few inches deeper than the base of the burial, may have been interred with this individual.

Burial 6 was more toward the center of the mound. It was in a flexed position, lying on its left side (page 45 and Plate 19) facing north. The skull was 5.85 feet from stake 25, 5.91 feet from stake 25R1, and 4.66 feet from the surface. The extreme length of the burial was 2.75 feet. The long bones were the best preserved of any in the mound. A portion of all six of the long bones of the legs were found. Also the central portion of a humerus, a radius, and an ulna, thought to have belonged to the right side, were found. The skull was in very bad condition with the facial portion entirely gone and only the parietals, temporal, and occipital remaining. No indication of age could be obtained, but the absence of inion and the smallness and gracility of the bones suggested a female. A slate gorget and two drills found 1 foot north of the burial and nearly 2 feet higher may have been associated with this burial.

The only other skeletal remains found in this section was half of what appeared to be a lower jaw with teeth. This was 4.41 feet deep, 3.5 feet west, and 1 foot south of stake 25R1. It was badly decayed and crumbled upon examination. It has been suggested that these fragments of jaws with teeth may have been "cut-jaws."

Aside from a number of small fragments, the only pottery of interest was the crushed pot found with Burial 5.

Ten projectile points were found in this section. One point (g, page 47) was found with Burial 5. Two feet west of stake 25R1 and at a depth of 1 foot a partially broken point was found (e, page 47). In the center of the square bounded

by stakes 20, 20L1, 25, 25L1, two rather crude triangular points (c, f, page 47) were found at a depth of 1.5 feet. The smallest point in the collection (r, page 47) was 2 feet deep and 1 foot north of stake 25R3. Its maximum measurements were .56 inch long by .437 inch wide. A point roughly triangular in shape (s, page 47) was found at a depth of 2.75 feet and approximately 2 feet west of stake 25R2. Two drills (u, y, page 47) were found 4.41 feet from stake 25 and 6.66 feet from stake 25R1 at a depth of 2.85 feet. One of these drills is exceptionally well made; the other is quite crude. Another projectile point (k, page 47) was found on the 25-foot face, 1.5 feet south of stake 25 at a depth of 5.08 feet in what appeared to be undisturbed sand. In the test pit made before excavations were begun, a finely chipped point was found at a depth of 2.17 feet (h, page 47).

The only other artifact in this section consisted of a slate gorget 4 feet from stake 25, 6.25 feet from 25R1, and at a depth of 2.85 feet (d, page 52). A counter-sunk perforation was noted toward one end. The gorget was of irregular thickness, varying from .125 to .25 inch. It was associated with the drills u and y mentioned above. Three grit-tempered undecorated pot sherds were with these artifacts. It has been suggested that this gorget and drills may have been related to Burial 6 although they were nearly 2 feet above the burial and 1 foot north.

The appearance of the 25-foot face can be seen on page 54 and in Plate 21. A pit was most noticeable between stakes 25R1 and 25R2. It was 4 feet wide at what appeared to have been the base of the mound and was about 2.5 feet beneath this base. The bottom of the pit was 6.58 feet from the surface, but the horizontal extent could not be determined, nor whether it was modern or aboriginal. A small piece of undecorated pottery was all that was found in the pit.

The 25- to 30-foot section was the last excavated. Toward the center of the sections, 1.5 feet from the surface, 3.33 feet from stake 30, and 3.66 feet from stake 30L1 were skull fragments. The skull had probably faced southwest but this could not be definitely established. A practical absence of inion, no pronounced supraorbital ridges, and small mastoids indicated feminine sex, while the advanced state of ossification of the sutures indicated an old person. An unidentified section of long bone was found near stake 30. Orientation was not

obtained. One foot northeast of the skull and at the same depth were the fragments of what had been a complete pot. It was coarse grained, grit tempered, and averaged .37 inch in thickness. It was quite fragile and the individual sherds had to be cemented before they could be removed. Its rim was pointed and appeared to be fluted, though this was not clearly discernible. The pot was larger and much heavier than the other two complete vessels.

The skull of another burial was 2.33 feet from the surface and 2.66 feet from stake 25R1 and 4.41 feet from stake 25R2. It was facing toward the north. A femur was lying in an east-west direction midway between stake 25R1 and 30R1. What is believed to have been a tibia was found north of the femur. A portion of an arm bone and a few finger bones under the skull were the only other bones remaining.

Directly west of the skull and at the same depth (2.33 feet) was the most perfect pot found in the mound. It was 2.5 feet from stake 25R1 and 4.5 feet from stake 30R1. Measurements taken *in situ* showed that the pot was 7.87 inches high, 6.25 inches rim diameter, and 7.13 inches maximum diameter of body (Plate 30). The pot was lying on its side with the mouth to the northeast. It was grit tempered, some coarse grains protruding on the surface, cord marked on the outside, and with a slightly notched effect at the rim. The base was semiconoidal, the neck only slightly constricted, and with only a slight rim flare. It was undoubtedly a utility pot, for the entire outer surface was coated with soot (Plate 29).

The only other bone found in this section was a portion of skull 3.91 feet deep, 5.08 feet from stake 30, and 2.33 feet from stake 30L1. It consisted of portions of both parietals and the frontal. The sagittal suture showed a great amount of ossification.

Aside from the two pots described above, one interesting sherd was found. It was 2.91 feet deep, 4 feet west and 1 foot north of stake 30R1. It was thick and grit tempered, with a roulette design (M-32, Plate 31) absolutely identical with two sherds found on the surface (S-3, Plate 32).

Four projectile points were unearthed in this section. Point t, page 47, almost oval in shape and quite crude, was 3.25 feet deep and 3 feet south and 2 feet west of stake 30. Another point (j, page 47) was small, with the edge of one side serrated. It was 4.25 feet deep and 1 foot north of stake 30.

Another point was 3.5 feet deep, 2 feet south, and 1 foot west of stake 30. The broken top of a drill was found 1.66 feet deep, 4 feet west, and 1 foot south of stake 30L2.

Approximately 1 foot south and 1 foot west of stake 30 was a very crude slate gorget at a depth of 3.66 feet. It had been roughly fashioned from slate and was somewhat oval in form (c, page 52).

Another artifact found in this section was either a hammer stone or a poorly finished discoidal game stone. It was 1 foot north of stake 30 and 1.91 feet deep, roughly circular in shape, 1.45 inches thick, and 2.63 inches in diameter. The sides were comparatively flat. It weighed 7 ounces.

In the square bounded by stakes 25, 25L1, 30, and 30L1 there was a circular area of hard ash and sand (page 45). Because of its compactness and the greater quantity of ash content it was noticable. It was just beneath the skull fragments mentioned above. Though it was carefully troweled, nothing was found. It was probably from 1 foot to 2 feet thick and approximately 3 feet in diameter.

There was nothing of any importance noticeable on the 30-foot face. Again there was no definite line of stratification. Here and there were darker areas. The peculiar "lens-shaped" pockets were again clearly visible in isolated areas, usually toward the bottom of the face.

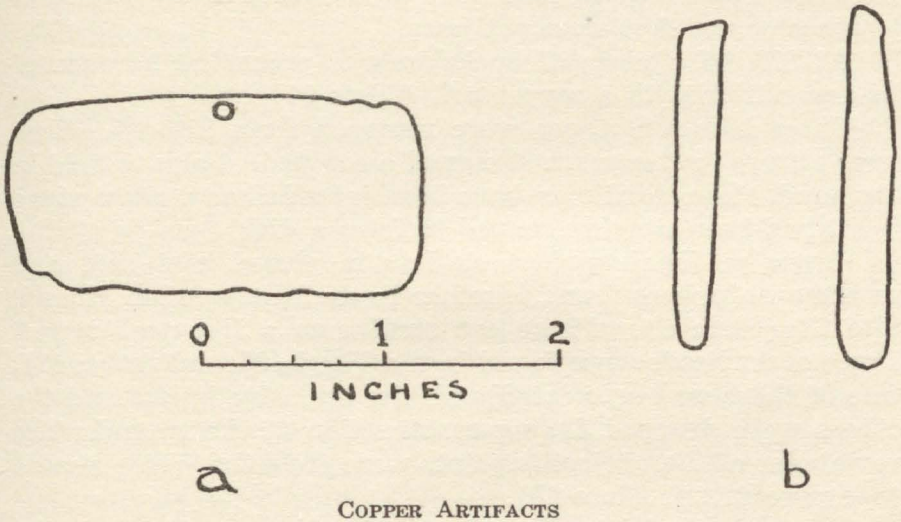
Due to a lack of time excavations were discontinued. At least two-thirds of the mound had been examined.

To summarize: mound entirely of sand; five flexed burials; one group of reburials; three slate gorgets; two tubular copper beads; one copper plate; two shell beads; one flat base platform pipe; fragments of an unbaked clay-muck pipe; twenty-five projectile points of several types; pottery with conoidal base and only slight rim constriction; grit-tempered sherds with incised, punched, roulette, fabric impressions and cord marks; possible cut jaws; cache of large blades near mound; and a possible small earthwork in the vicinity. If this material can be said to be related to any established mound culture, it comes nearer to Hopewell than to any other.

Artifacts from Mounds

The few copper artifacts obtained from Porter County mounds consist of a copper celt or axe wrapped in what appeared to be leather, obtained from Site 15 (Plate 9); a cop-

per awl removed from Site 20; two tubular beads made of thin sheets of copper which had been rolled to form a small tube, and a small copper plate found at Site 35 (Plate 27); and a portion of a copper tube obtained from Site 22. All of these were associated with burials and comprise both implements and ornaments.



COPPER ARTIFACTS

[a, copper plate; b, two tubular copper beads]

Three pipes and what appears to be the unfinished fragments of a fourth were obtained. A platform pipe obtained from the Weise Mound has a flat oval-shaped base measuring 4.813 inches, and has fine lines scratched on the upper and lower surfaces forming crude geometric designs and figures of animals (see figure, page 50 and Plates 23-24). According to Paul Simpson of the State Geology Department, it is made of highly metamorphosed slate or greenstone containing minerals altered to resemble igneous materials. What appears to be an unfinished pipe was also taken from the Weise Mound (Plate 25). Another platform pipe, but with curved base, was found at Site 15 (Plate 9), and another of identical shape but of red stone, at Site 20.

Four slate gorgets were found, three at the Weise Mound and the other at Site 23.

Five shell beads, which appear to be made from the columella of the conch, were removed from Site 22. Two small shells taken from Site 35 may have been used as beads.

Two cut human jaws were obtained from Site 22. They had been ground down to the shape shown in Plate 6, with two counter-sunk holes in each. In the Weise Mound several groups consisting of a few teeth with decomposed bone adhering were found. They were not related to any burials and were so deteriorated that it was impossible to establish whether or not they were cut jaws.

At Site 15 a piece of buckskin was preserved because of its association with a copper celt (Plate 9).

Three hammer stones were removed from Site 35. Two were natural water-worn stones of a convenient size to hold in the hand. The third may have been intended as a game stone for it had been roughly shaped to form a disk.

Seven projectile points similar in shape, material, and workmanship were found together in the Franz-Green Mound, Site 22 (Plate 5). These are similar to a Hopewell type.[26] Three arrowheads were found in the Vergin Mound (page 41). One of these was associated with the intrusive burial and the others were dropped during construction of the mound. The remainder of the projectile points were from the Weise Mound (see page 47 and Plate 26).

Except in the Weise Mound and the adjacent area along the Kankakee, no pottery was found. From Site 15 a single piece was obtained and another very small fragment from Site 28. Three complete pots were found in the Weise Mound. Only one was removed intact. These resemble the Algonkian or "Lake Michigan ware."[27] The shape does not conform to the types figured by Ritchie for either the Second or the Third Period Algonkian, but is intermediate.[28] They are similar to some forms figured by Willoughby for his Archaic Algonkian.[29] The bases are slightly conoidal, the necks are not greatly constricted, and there is only a slight rim flare. The grit tempering is comparatively coarse. The ware is thin, brittle, and

[26] Shetrone, Henry C., "Explorations of the Hopewell Group of Prehistoric Earthworks," in *Ohio Archaeological and Historical Quarterly*, 35:no. 1:132, Figure 59.

[27] McKern, W. C., "Wisconsin Pottery," in *American Anthropologist*, 33:no. 3:383-89 (American Anthropological Association, Menasha, Wis., 1931).

[28] Ritchie, W. A., "The Algonkin Sequence in New York," in *American Anthropologist*, 34:no. 3 (American Anthropological Association, Menasha, Wis., 1932).

[29] Willoughby, Charles C., "Pottery of the New England Indians," in *Putnam Anniversary Volume; Anthropological Essays* . . . (New York, 1909). See Dr. Guthe's report on the pottery found in Porter County, Appendix II.

Mound site number	15	20	22	23	28	35	Total
Platform pipes	1	1				1	3
Unfinished pipe						1	1
Complete pots						3	3
Pot sherds	x				x	x	x
Cut jaws			2			?	2
Copper celts	1	1					2
Copper awl		1					1
Copper beads						2	2
Copper plate						1	1
Copper tube			1				1
Slate gorgets				1		3	4
Shell beads			5			2	7
Projectile points			7		3	25	35
Leather	x						x
Hammer stones						3	3

TABLE 1. ARTIFACTS FOUND IN PORTER COUNTY MOUNDS

grayish in color. The vessels were cord marked, and around the neck of one was a series of punched marks (M-53, Plate 31).

CONCLUSIONS

A greater amount of evidence than is available at the present time would seem necessary before conclusions are reached, but many years may elapse before further archaeological exploration is continued in this section of Indiana. In the meantime tentative conclusions are believed to be not only justifiable, but desirable. In this conclusion the material from all the mounds of Porter County is considered together, even though the construction of the Weise Mound was apparently different from the other mounds excavated.

The location of these sites at the southern tip of Lake Michigan suggests a number of established cultures of which they may have been a part or by which they may have been influenced. Failing any relationship, the Porter County material would have to await future developments to be determined.

Few scientific archaeological surveys have been made in Indiana. Near Winchester, Setzler has found evidence for believing the Fudge Mound to be a variant of the Adena culture.[30] "Mound Camp," Stoops Mound, and the Glidewell Mound in the Whitewater Valley "closely resemble" that culture, while other sites in the Whitewater Valley could not be related with any known cultures.[31]

The culture of the Albee Mound in Sullivan County, which was excavated by J. A. MacLean, has not as yet been determined.[32] Nor have the mounds excavated in Greene County by Dr. W. N. Logan, state geologist, in 1926 and 1927, been classified.[33] Adena, therefore, is the only cultural phase so far established, though other cultures are certainly present in Indiana.

Much more work has been done in the adjoining states, and to these areas one can turn for possible suggestions of

[30] Setzler, Frank M., *The Archaeology of Randolph County and the Fudge Mound*, 37 (*Indiana History Bulletin*, 9:no. 1, Indianapolis, 1931).

[31] Setzler, Frank M., *The Archaeology of the Whitewater Valley*, 500 (*Indiana History Bulletin*, 7:no. 12, Indianapolis, 1930).

[32] MacLean, J. Arthur, *Excavation of the Albee Mound, 1926-1927 . . .* (*Indiana History Bulletin*, 8:no. 4, Indianapolis, 1931).

[33] Logan, William N., "Archaeological Investigations in Greene County," in *Proceedings of the Indiana Academy of Science*, 1927, Vol. 37:165-74.

cultural relationships. The three important mound cultures of Ohio are the Adena, Hopewell, and Fort Ancient. In Michigan the Algonkian, Hopewell, and Iroquoian cultures have been established. On the lower Wabash River the Tennessee-Cumberland cultural influence has been postulated. To the west, in Illinois and Wisconsin, a number of cultures are recognized, the most important for this study being the Middle Mississippi and the Hopewell variant. The Middle Mississippi is represented by the Don Dickson site near Lewistown, Illinois, and by sites opened by the University of Chicago in the same vicinity. This culture is apparently related to the Cahokia-Aztalan material.

The size and scope of this paper prohibits a detailed summary of these various cultures, but the traits found in Porter County are here enumerated and so far as is possible, their cultural relationship is suggested. This does not purport to be a detailed and exhaustive analysis.

In Porter County dome-shaped mounds were found isolated and in groups, usually located on a natural elevation, adjacent to a creek or former swamp land. They were built of the earth found in the vicinity. These characteristics are not distinctive and might apply to a number of mound cultures.

The building of fires on the site where the mound was to be erected, which resulted in a hard, compact area, was found in a mound of the Illinois-Hopewell.[34] A burned area which may approximate that found in the Vergin Mound (Site 28) is noted by Willoughby in Mound 5 of the Turner group.[35] The use of ceremonial fires is not unusual in the construction of the mounds of several cultures, but the building of fires on the entire area on which the mound is to be erected is not mentioned in the literature.

The central pit containing burials is typical of the Wisconsin and Illinois variant of the Hopewell. Sub-floor pits for burials are found in the Ohio Adena and Hopewell, but these differ from the large central pits containing the compound burials.

Ash layers were found above and below the burials in two of the Porter County mounds excavated by amateurs. In

[34] Personal communication with Thorne Deuel.

[35] Willoughby, Charles C., *The Turner Group of Earthworks, Hamilton County, Ohio*, 74, Figure 34 (Peabody Museum of American Archaeology and Ethnology, Harvard University, *Papers*, 8:no. 3, Cambridge, Mass. 1922).

another mound of the same group the ash layer was only above the burials, which feature is occasionally found in the Illinois variant of Hopewell. These areas of ash may be comparable to the stratification found in the Turner and Mound City group of the Ohio Hopewell, where the stratification is thought to be intentional and ceremonial.

Since burial techniques were employed which correspond to a number of mound cultures, little can be concluded which would be of comparative value; especially since the only positive observations are limited to one mound, Site 35, where burials were found either flexed or bundled, but not extended. They were scattered throughout this mound. The position of the burials observed by amateurs is not certain, and in the Vergin Mound the bone was so badly decomposed that the type of interment could not be ascertained. It is evident, however, that in all the mounds, except Site 35, the burials were limited to a central pit. Burials were found either with or without artifacts.

The skeletal material was too fragmentary to permit of any significant conclusions.[36] In one instance fronto-occipital flattening of the skull was noted (Plate 7) which trait occurred among the Hopewell.

In shape the pottery is typical of Eastern Algonkian and an early or utilitarian Hopewell. From an examination of the sherds, Dr. Guthe concludes that the ware is more closely affiliated with the Great Lakes region than with the areas in southern Indiana and Ohio. There are a number of sherds, however, reminiscent of Hopewell.

The small cache of 24 flint blades found near the Weise Mound, Site 35, resembles the "ceremonial disks" found by Moorehead and Shetrone in Mound 2 of the Hopewell group. A similar type was found in the Adena Mound, where a cache of nine was encountered.

The platform pipes of flat and curved bases are typical of the Hopewell culture.

The projectile points as a whole are too varied to allow for comparison. One cache of seven diagonally notched points, all practically identical in size, workmanship, and form, are similar to the points removed from Mound 4 of the Hopewell group.

The cylindrically shaped shell beads are not distinctive,

[36] See Dr. Krogman's report, Appendix I.

being found in Hopewell, Adena, and Middle Mississippi. According to Dr. F. C. Baker, the mollusk shell (*Anculosa praerosa* Say) beads "are found in practically all of the cultures in central Illinois and southward. . . . It was not noted among the material from the Hopewell region and was not seen among the specimens from the Etowah mounds in Georgia, although the snail is one of the commonest species in the rivers of Georgia. The use of this species may be found to be restricted to the cultures in Illinois and Indiana."

The two cut jaws (human) are typically Hopewell.

The single copper tube is not like the usual Hopewell type—the conjoined triple tube. The copper beads are apparently similar to those found at the Madisonville site, and by McKern in his Wisconsin variant of the Hopewell, but are not typical of the Ohio Hopewell. The copper plate is smaller than those found in the Hopewell, but of the same type. The copper celts are Hopewell, as is the one copper awl. The gorgets are not distinctive of any one culture, for forms similar to those found in the Weise Mound have been reported from Hopewell, Fort Ancient, and Algonkian sites.

From the above comparisons it can be concluded that if the Porter County mound material resembles any culture it is the basic Hopewell, rather than any of the other established cultures. Typical Hopewell traits are the cut jaws, platform pipes, copper celts, copper awl, copper plate, roulette and incised pot sherds, and probably the seven diagonally base-notched projectile points. The construction of the mounds is unlike the Ohio Hopewell, but similar to the Wisconsin variant of Hopewell. The copper beads are identical with this Wisconsin variant, but unlike the typical Ohio Hopewell beads. Such traits as pottery shape, tempering and cord marking, slate gorgets, shell beads, and burial technique are found among other cultures of the Woodlands phase as well as Hopewell.

Finally it must be admitted that there are more Hopewell traits lacking than present. There are no crematory basins or cremated remains, no finely chipped obsidian blades, woven fabrics, pearls, pearl beads, metal covered beads and buttons, marine shell containers, bone perforators, copper ear spools, perforated bear teeth, mica outline-images and designs, human effigies, and other traits of less importance. The technique of

mound construction differs and no "rooms" or "log tombs" have been found in Porter County.

In suggesting that the Porter County remains exhibit Hopewell influence, it should be noted that the adjoining county of La Porte also appears to have been similarly influenced. From mounds on the banks of the Kankakee, twelve miles south of La Porte, the following specimens were obtained: copper ear spools, copper celts, copper awls, platform pipes, effigy pipes, slate gorgets, mica and galena.[37] The ear spools, celts, awls, and slate gorgets are now on exhibit at the Field Museum in Chicago. Textile imprints are clearly visible on several of the copper celts. The material is unquestionably of Hopewell influence.

It is evident from mound excavations that there formerly existed in Porter County a variant of the Hopewell culture, which in turn seems to belong to a much wider and more fundamental classification which may tentatively be termed Woodlands. There is apparently no affiliation with the Mississippi culture. It is probable that other Indian groups may also have populated the county, without leaving evidence of their habitation. There are historical records for a Potawatomi occupation, but no cultural remains can be attributed to them. At present the surface collections made by local people cannot be related to any specific group.

[37] Levette, G. M., "Laporte County," in Indiana *Geological Report*, 1873, pp. 473-74; Shetrone, *The Mound Builders*, 247; Thomas, "The Illinois District," in Smithsonian Institution, Bureau of American Ethnology, *Twelfth Annual Report*, 1890-1891, p. 555.

COLLECTIONS

Private collections of specimens obtained from Porter County were studied and photographed. The names of those persons who coöperated with the survey in permitting classifying and photographing are listed in Table 2. The artifacts were grouped according to the classification used in previous surveys made by the Historical Bureau, in order to preserve uniformity and facilitate comparisons.

Only those specimens obtained from Porter County were included. In all but five cases (Green, Allman, Hoshaw, Hiatt, and McAlpin) the artifacts were found in one small locality—the farm on which the collector lived. Many individuals formerly had collections, but they have been destroyed, lost, misplaced, or given away. The need for preserving these artifacts in some public institution becomes increasingly apparent.

From Table 2 and Plates 37-44 an impression of the type of surface material can be obtained. It will be noted that the great majority of projectile points are side notched. The next largest number are stemmed points, followed by triangular, and then those termed blanks. Those occurring least often were the side and base notched, concave base, and blunts.

These results correspond closely with Setzler's findings in the Whitewater Valley.[38]

The type of axe and celt generally found are shown in Plates 39, 40, 44. Other artifacts consisted of seven gorgets, one discoidal, one plummet, one boat stone, and several problematical forms.

Pot sherds were found in only two collections (Allman and Weise). They had been obtained from the same locality, Indian Garden, the region along the Kankakee west of Baum's Bridge. This was the only locality in the entire county at which this survey was able to locate sherds, and it seems evident that they have not been present outside of this region.

[38] Setzler, *The Archaeology of the Whitewater Valley.*

TABLE 2. SURFACE COLLECTIONS MADE BY LOCAL PEOPLE

	Projectile Points										Axes		Other Artifacts			
	side-notched	stemmed	base-notched	triangular	side and base-notched	concave base	blank	drills	blunts	scrapers	full grooved	¾ grooved	celts	hammer stones	other artifacts	
C. W. Nelson	38	3	9	6	0	1	0	2	0	3	0	0	0	0	0	62
H. Greening	32	6	7	5	0	0	4	1	0	2	3	0	4	0	0	64
A. Green	7	8	2	2	0	0	2	0	0	2	3	0	2	0	0	28
J. F. Bradley	3	11	2	14	1	2	5	1	1	7	5	2	11	0	16	81
G. Jones	83	9	11	4	0	0	5	2	2	5	5	3	7	1	1	138
P. Stoner	31	7	12	1	0	0	3	0	0	1	4	0	1	1	0	61
C. F. La Count	55	12	0	3	1	1	12	2	0	4	1	0	3	3	0	97
J. W. Denny	61	8	8	5	1	1	1	5	3	1	0	0	2	0	0	96
J. C. Allman	21	2	5	17	0	1	1	9	2	0	0	0	1	0	2	61
A. Weise	26	8	8	3	7	0	2	5	1	0	0	0	1	0	0	61
C. Wolbrandt	38	7	3	2	0	0	5	0	2	0	1	0	1	0	0	59
C. R. Reif	30	13	2	10	0	0	10	5	1	2	0	0	0	0	1	73
H. Klemz	20	1	1	10	2	0	1	3	1	0	0	0	0	0	0	39
J. R. Witters	33	7	7	0	0	0	3	5	0	3	2	0	1	0	1	62
P. E. Hoshaw	66	14	10	5	0	3	15	5	0	0	5	1	10	2	2	138
Albert Hiatt	42	11	3	16	1	5	27	7	3	1	1	0	1	1	1	120
Aylesworth brothers	30	6	4	1	0	0	5	2	0	2	2	2	4	2	0	60
C. McAlpin	80	6	3	1	2	1	2	3	0	0	3	2	7	0	3	113
Totals	696	139	97	105	15	15	103	57	16	33	35	10	56	10	27	1,413
Percentage	.492	.098	.068	.074	.01	.01	.073	.04	.011	.023	.024	.007	.039	.007	.019	

APPENDIX

I. Skeletal Material from the Vergin and Weise Mounds

By Dr. Wilton M. Krogman, Western Reserve University

The skeletal material examined from the Vergin Mound comprises cranial fragments and the middle one-fourth of one femur. The only bones of the cranium that permit of articulation are the left temporal, portions of the left parietal, and the left superior portion of the left occipital. The bones are of average thickness and the portion reconstructed indicates a skull of average capacity.

The mastoid is quite small, but the muscular impressions on the occiput are rather strongly marked. The general impression, however, is that of a female, and this is enhanced by the gracility of the femoral portion.

The sutures of the vault are patent (i.e. left lambdoid, left circummeatal, left masto-occipital), but action of earth may have forced them open. There are very fragmentary portions of the right mandibular arch and right maxilla in the premolar 2-molar 2 region which suggest extreme wear of the teeth. A conclusion of middle age is therefore indicated.

With reference to the race of the skull little can be said except that the juxtaposition of small mastoid and heavy nuchal ridges in the female is perhaps more frequent in Indian than White.

That portion of the skeletal material brought to my attention from the Weise Mound consists of the cranial fragments of at least four adult individuals. Unfortunately the material is so fragmentary and incomplete that only a few measurements could be made, and only general conclusions postulated.

I wish to acknowledge the able assistance of George K. Neumann of the Department of Anthropology of the University of Chicago, who very kindly placed at my disposal the results of his intensive study of Illinois archaeology and its associated skeletal remains.

All the bones were of a buff color and were evidently buried in a sand or sandy clay.

Skeleton 0. This skeleton is represented by a fragment of the left maxilla, with a premolar 1-2 and molar 1-3 still in

place, and the left half of the mandible and its symphysis, with incisor 1-2 right, and incisor 1-2, canine, premolar 1-2, molar 1-3 left, also in place. Although the portion of the mandible is rather rugged the teeth are quite small, and the arch rather narrow. The portion of the maxilla points to a delicate-boned face. Upon this slender evidence rests the judgment that the remains are those of a female. With the exception of the first molars, which show second-degree attrition, all the teeth evidence only a first-degree attrition. The conclusion as to age at time of death is thus uncertain, though it is probable that a guess of twenty-five to thirty would not be far from wrong.

Skeleton 1. This skeleton is represented by three fragments of the mandible, the glabellar region of the frontal, the right half of the occipital, the complete right temporal, and portions of the right parietal, right sphenoid, and right zygoma. In addition, atlas, epitropheus, and the head of the left humerus are present.

The skull as a whole was quite small, having a glabella-opisthocranion length of about 170 millimeters. Its contours are delicate, with lines of muscle attachment but faintly marked, the mastoid process is smooth and of medium dimensions and shows the remnant of the patro-squamous suture across its lateral surface. The glabella is high, supraorbital ridges are lacking, the parietals are thin, and the mandible and teeth small. The head of the humerus is small and delicate. These observations lead to the conclusions that the fragments are those of a female skeleton. The sutures have all been forced open by intercranial earth pressure, so cannot be used as a criteria for age. The fact, however, that nearly all the teeth show fourth-degree attrition and that the odontoid process of the epistropheus bears evidence of osteo-arthritis, leads to the conclusion that the skeleton was of a probable age of thirty-five to forty-five years.

Skeleton 3. The following fragments of this skeleton were present: two portions of the frontal, six fragments of the parietals, three pieces of the occipital, two fragments of the temporals, two portions of the maxillae, and the left zygoma. The bones are more massive and heavier than those of the preceding individuals, the teeth are larger, the lines of muscle attachments better marked, and the supraorbital ridges are well developed. The individual was probably male. As in the

other two skulls the glabella was high; and in this instance the supraorbital ridges are continuous across the median plane. The teeth are only slightly worn: two exhibit first-, and five, second-degree attrition. This, Mr. Neumann informs me, is about as much wear as one would expect of an individual thirty to thirty-five years of age, taking Indians of the Illinois variant of the Hopewell culture as a basis of comparison. The lambdoid suture is closed, except near asterion. On this sutural basis the age would be about forty-two to forty-five years.

The basilar portion of the occipital shows an absence of the pharyngeal fossa, as in the Indians of the Illinois-Hopewell culture. In other Illinois groups, on the other hand, it is found in approximately 28 per cent of skulls.[39] The parietal bosses are only slightly developed.

Skeleton 5. In some respects this skull is the most complete of the four. The following cranial fragments are present: three pieces of the frontal, the entire left parietal, the left temporal, most of the occipital, the left ala magnus sphenoidalis, the left zygoma, two fragments of maxillae, a piece of the right half, and the entire left half, of the mandible, and the left half of the atlas.

In heaviness the bones approximate those of Skeleton 3. The teeth are large, muscle attachments are marked, torus occipitalis is present, and there are deep depressions for the insertion of rectus capitis posterior major et minor musculi on the squama occipitalis—a well-developed supramastoid crest, and the mandible is typical of the male. All teeth show third- and fourth-degree attrition and the lambdoid suture was closed. The individual was about fifty years old. The parietal bosses are only slightly developed.

As practically all of the pieces of the left half of the cranial vault were present and could be articulated, several cranial measurements could be approximated. The glabella-opisthocranion length is 178 millimeters, and the euryon-euryon breadth about 151 millimeters (obtained by ascertaining half the maximum breadth, 75.5 millimeters, and multiplying by two). This gives a cranial index, roughly, of 84.8, which, and I quote Neumann, would fall within the range of the Illinois Hopewells, who are high meso-cranials and brachy-

[39] Unpublished manuscript of George K. Neumann.

cranials. The cranial height (porion to vertex) is 115.5 millimeters.

On the entire group of crania the only other measurements possible were on the mandibles. These are as follows:[40]

Skeleton number:	0	1	5
Height of ramus (27)	—	52 mm.	66 mm.
Minimum breadth of ramus (28a)	33 mm.	28 mm.	35.5 mm.
Maximum breadth of ramus (28b)	—	38.5 mm.	47 mm.
Symphyseal height (29)	33 mm.	33 mm.	—
Mandibular angle (32)	—	126.5°	117.25°
Depth of mandibular notch	—	13.5 mm.	18.5 mm.

None of the mandibles had a groove for the external maxillary artery. With the exception of the right lower third molar of number 1, none of the teeth exhibit caries.

Summary: The skeletal material examined by me represents the remains of four individuals typical of the American Indian "Mound-Builders." The essential data may be tabulated as below:

Skeleton	0	1	3	5
Sex	female	female	male	male
Age (ca.)	25-30	35-45	42-45	50

One would scarce dare say more, except to reiterate the apparent similarity of physical type in the Indiana and Illinois variants of the Hopewell culture, in that both are of a brachycephalic type. This, however, is not sufficient to indicate a similarity between the two variants, apart from the archaeological evidence.

[40] The numbers in parentheses refer to corresponding measurements in Wilder, Harris H., *A Laboratory Manual of Anthropometry* (Philadelphia, 1920).

II. Pottery Sherds from Porter County

By Dr. Carl E. Guthe, University of Michigan[41]

When grouped according to paste differences, the sherds fall into two divisions. One is a rather thick ware tending to reddish brown in color, and relatively soft and friable. The other is thinner, harder, and darker. The tempering throughout is grit, and ranges from fine, apparently uncrushed sand to medium coarse, crushed rock. Generally speaking, the finer temper is found in the thicker sherds.

When surface finish is considered, the material again falls into two groups. The majority of the sherds bear the imprint of cord-wrapped paddles, which in some instances are clearly superimposed, indicating that the paddle was used to shape the vessel. The thinner, harder sherds are in this group. At least two (M-27 and M-29),[42] however, are of the reddish sandy paste variety. In most cases, the marks of the paddle have been partially obliterated by subsequent manipulation with the fingers. The other and less numerous group has been smoothed only by the hands, either before or after the decorative elements were added.

There are several forms of decoration. Six sherds show rouletting in closely spaced, parallel straight lines. One (S-13) of these sherds has a plain smoothed surface and a wide smooth depression reminiscent of the ceremonial Hopewell ware. Another (M-31) smoothed sherd bears a lightly incised curvilinear design in which the area between the two curved lines is marked with short, parallel incised lines. A comparatively thick sherd (S-15) has an indistinct surface pattern. It may be the imprint of either a corn cob or a textile of a cord-wrapped bundle weave. The evidence is too vague for accurate determination. S-12, a small rim sherd, is the only specimen in the collection showing a sharply incised line,

[41] Dr. Guthe examined about fifty sherds from the Weise Mound and surrounding area. Each of the divisions were made on the basis of paste and of surface finish, and include specimens obtained from the mound (marked "M") as well as some found upon the surface (marked "S"). There was no essential difference between these two groups (Compare M-32, Plate 31, with S-3, Plate 32).

[42] Some of the sherds referred to are in Plates 31 and 32.

slightly wider at one end. Three sherds (S-7, S-8, and S-10) are gouged on the exterior. S-17 is a thick sherd with a thickened rim showing deep gouging in vertical lines. S-8, another rim sherd, has a thick cord imprint on the interior, and indications of possible cord marking associated with the deep gouges on the exterior. S-7 shows a crossing of the cord lines as in a textile imprint. S-1 has a small bulge on the exterior, caused by a deep imprint of the end of a reed on the interior. S-9 has traces of two similar reed imprints from the exterior to the interior. S-23 shows parts of two circular perforations through the body of the vessel. S-9, S-23, and M-28 bear shallowly incised parallel lines made with a blunt tool.

The majority of the rims are straight, with flat or gently curved lips. M-40 has a thinned rim, while S-6, of sandy reddish paste, has a thickened rim, with flat lip, on which are indentations probably made with the finger tips. S-21 has a rim with deeply imprinted diagonal incising which may have been made with the finger nail. The rim of S-5 is thinned abruptly, causing a ridge below the lip, and bears a point analogous to the Iroquois points. This sherd is finely tempered and its surface is marked by a cord-wrapped paddle.

A small sherd (M-46) is thin and hard, and of the "hole" temper variety. It bears a faint incised line. It resembles a Hopewell-like ware occurring near Muskegon, Michigan. M-34, 43, 44, 45, 48, and 50 do not have sufficiently distinctive features to warrant description. M-35 is from the same pot as M-40, and M-38 closely resembles M-40.

PLATE 1. ALLMAN MOUND, SITE 21, LEFT; FRANZ-GREEN MOUND, SITE 22, RIGHT, NEAR BOONE GROVE

PLATE 2. WARK MOUND, SITE 19, NEAR BOONE GROVE, THE LARGEST MOUND IN PORTER COUNTY

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PLATE 3. FRANZ-GREEN MOUND, PHOTOGRAPHED BY A. GREEN BEFORE EXCAVATION IN 1915

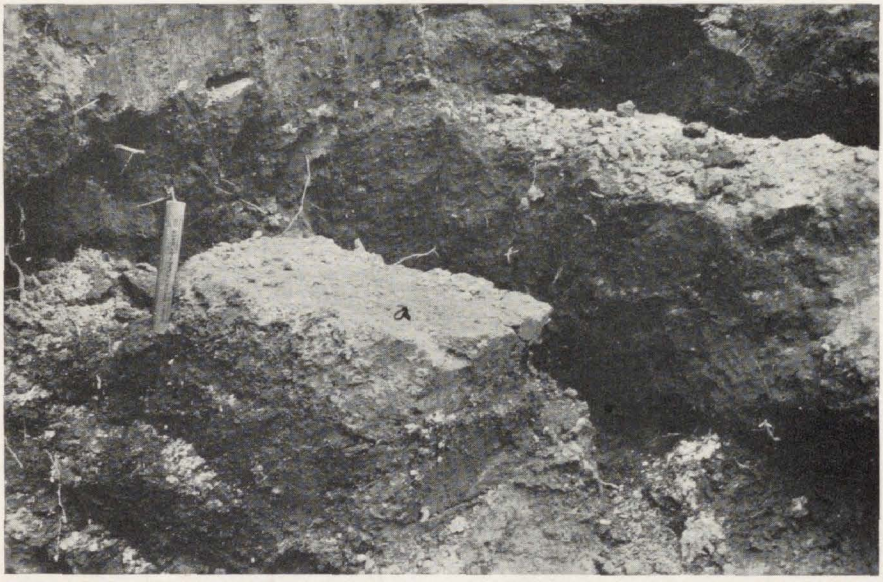

PLATE 4. PHOTOGRAPH MADE BY A. GREEN DURING 1915 EXCAVATION OF FRANZ-GREEN MOUND
[Shows "altar," and white ash layers found above and below burials]

PLATE 5. DIAGONALLY NOTCHED PROJECTILE POINTS OBTAINED FROM FRANZ-GREEN MOUND

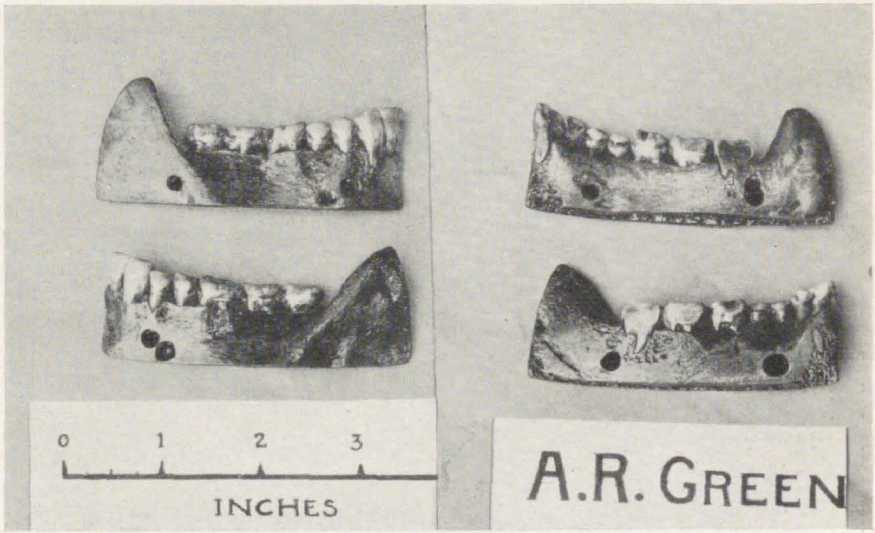

PLATE 6. TWO PERFORATED AND CUT HUMAN JAWS FROM FRANZ-GREEN MOUND
[Right, inner sides showing extensive grinding; left, outer sides]

PLATE 7. SKULL FROM FRANZ-GREEN MOUND, SHOWING ARTIFICIAL DEFORMATION

PLATE 8. STRATIFICATION IN DOUGLAS-HIATT MOUND, SITE 20
[The hand indicates hard, lumpy, yellow clay, probably subjected to fire; below, undisturbed earth; above, an artificial fill]

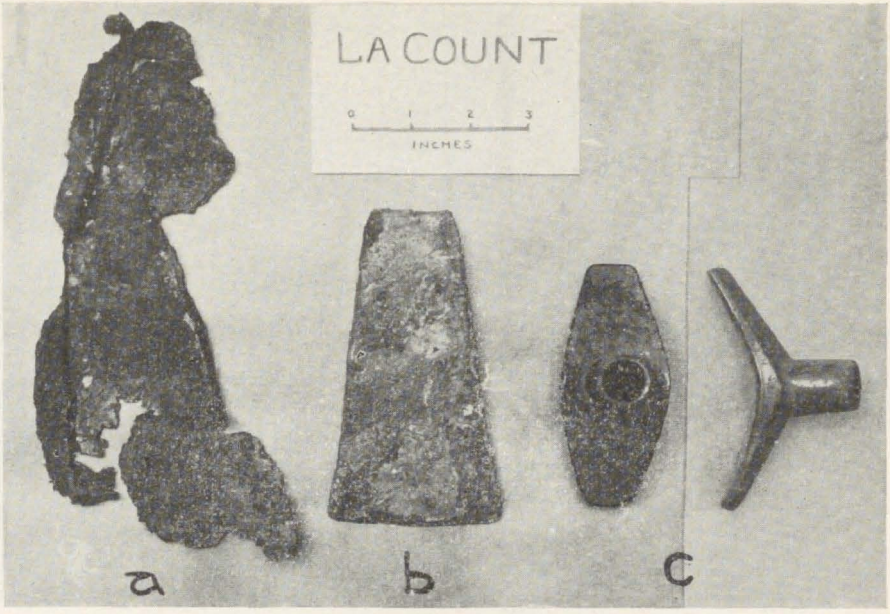

PLATE 9. MATERIAL FROM LA COUNT MOUND, SITE 15
[a, leather wrapping from copper celt; b; c, top and side view of curved-base platform pipe]

PLATE 10. BEGINNING OF EXCAVATION ON VERGIN MOUND, SITE 28, LOOKING SOUTH OF WEST

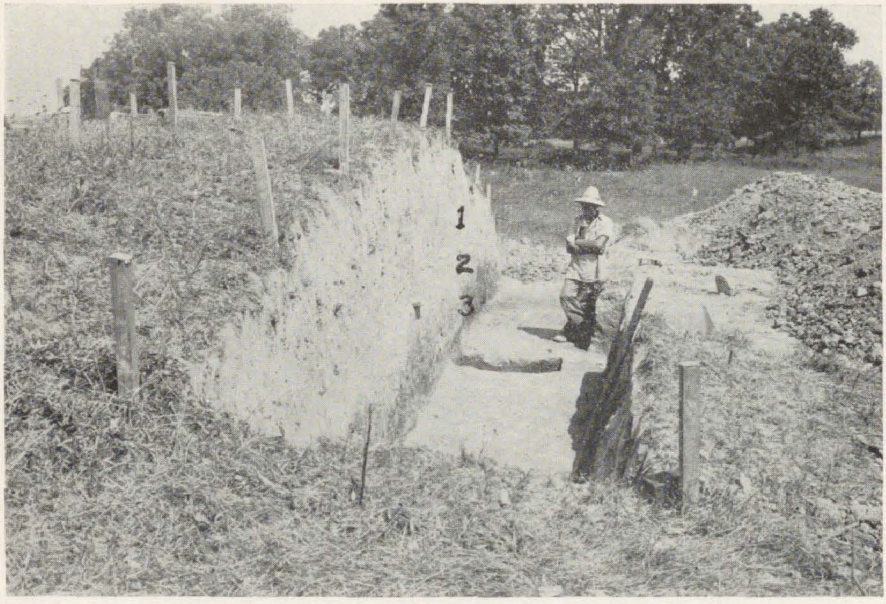

PLATE 11. THE 15-FOOT FACE OF VERGIN MOUND
[1, yellow clay with little indication of artificiality; 2, hard, compact strata, lighter in color; 3, undisturbed]

PLATE 12. THE 22½-FOOT FACE OF VERGIN MOUND
[Finger indicates narrow, black, humus line]

PLATE 13. THE 25-FOOT FACE OF VERGIN MOUND
[Arrow at beginning of central depression; laborer indicating where skull of intrusive burial was found]

PLATE 14. THE 30-FOOT FACE OF VERGIN MOUND
[Showing general view of central depression]

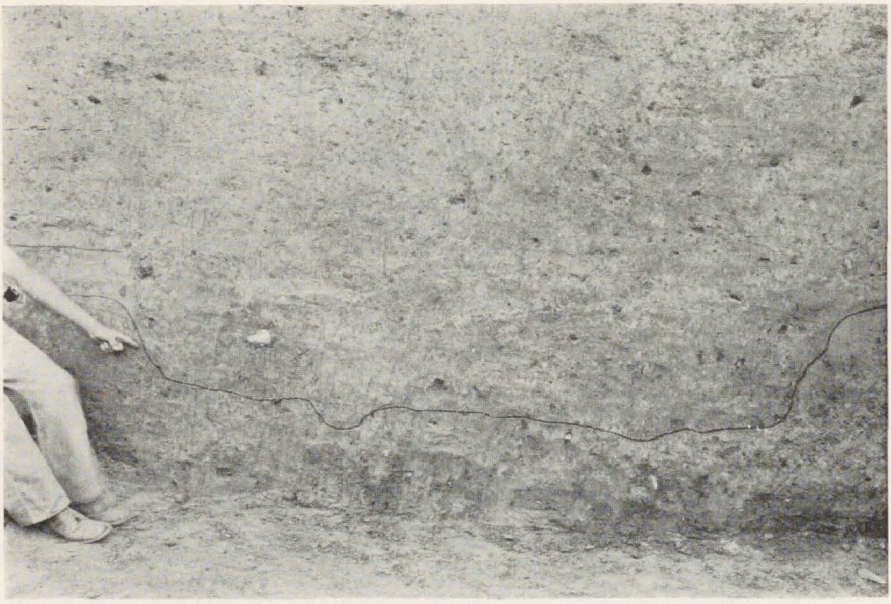

PLATE 15. THE 30-FOOT FACE OF VERGIN MOUND
[Close-up view showing line which formed lower limit of central depression]

PLATE 16. THE 35-FOOT FACE OF VERGIN MOUND
[Showing straight line which extended across that cut]

PLATE 17. 15- TO 20-FOOT SECTION OF WEISE MOUND, SITE 35
[At foot of laborer, Skeleton No. 1; toward center of cut, group of reburials]

PLATE 18. WEISE MOUND, SKELETON NO. 2, EXTREME RIGHT; REBURIALS WITH SKULLS NOS. 3 AND 4 TO LEFT

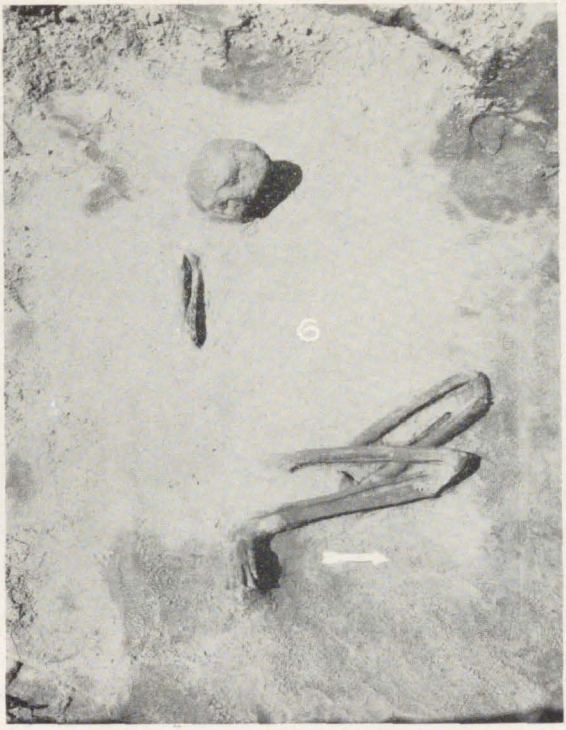

PLATE 19. WEISE MOUND, BURIAL NO. 6
[Flexed position characteristic of articulated burials in mound]

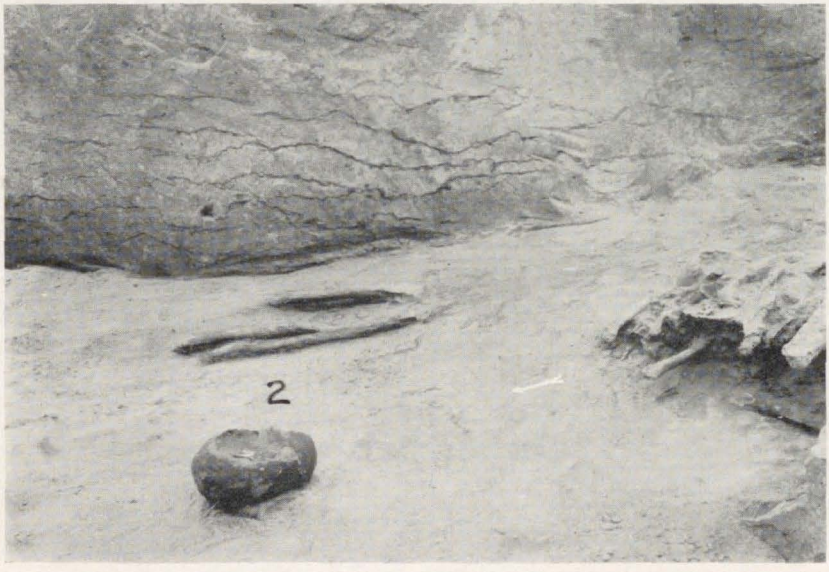

PLATE 20. WEISE MOUND, BURIAL NO. 2 FROM NORTH OF WEST; REBURIALS ON EXTREME RIGHT. NOTE LINES, 20-FOOT FACE

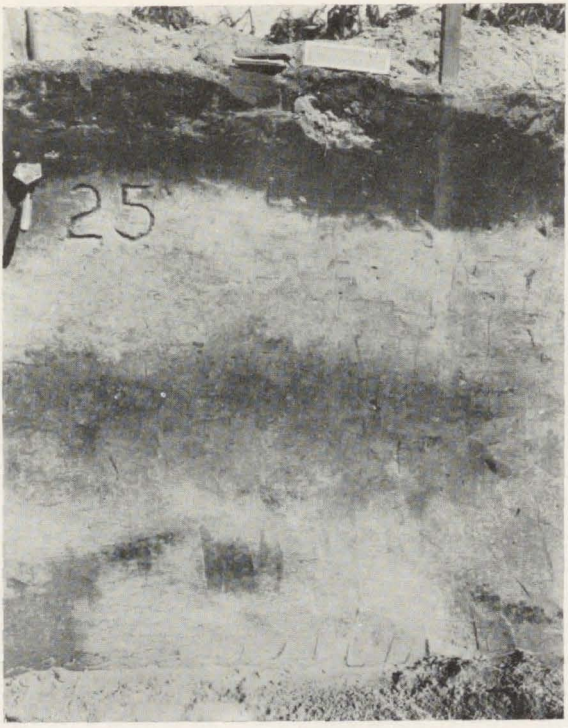

PLATE 21. WEISE MOUND, 25-FOOT FACE
[Note dark areas encountered, and irregular lines, base of cut]

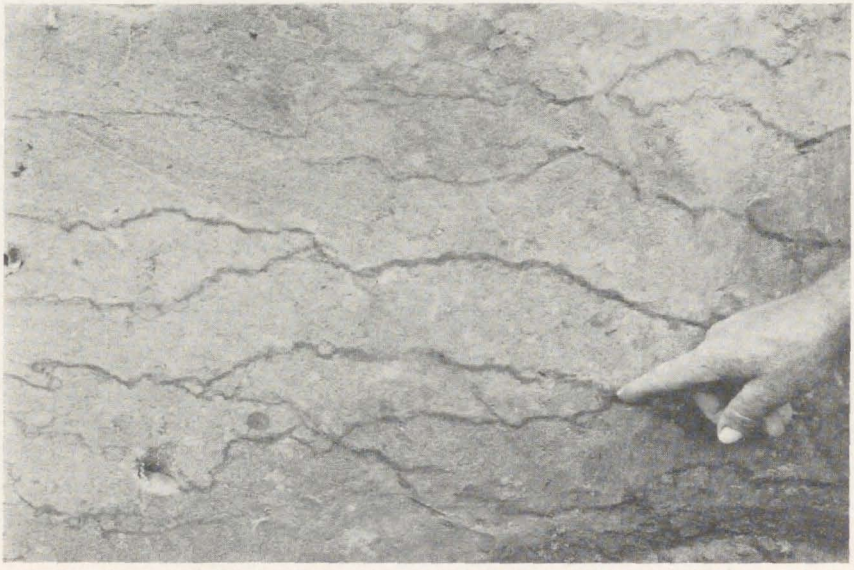

PLATE 22. WEISE MOUND, SHOWING SEEPAGE LINES FREQUENTLY ENCOUNTERED THROUGHOUT MOUND

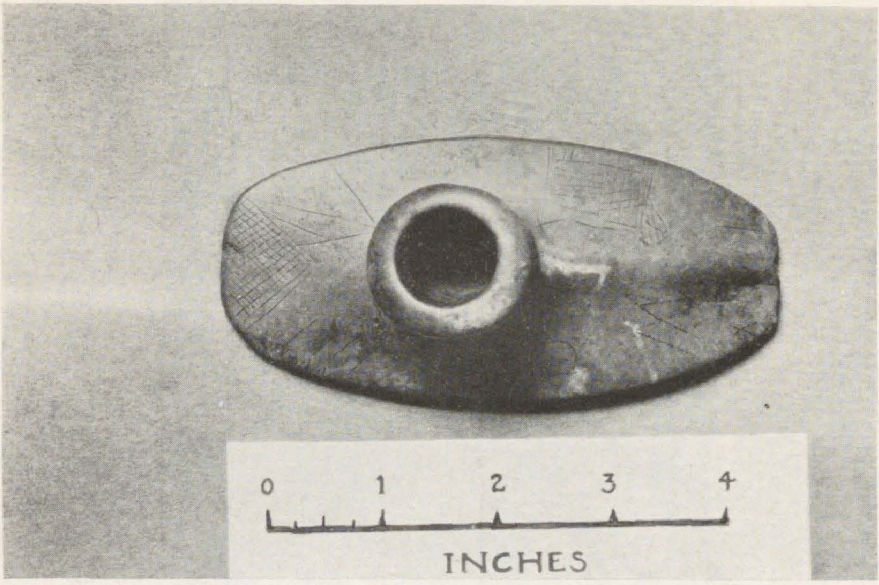

PLATE 23. PLATFORM PIPE OF METAMORPHOSED SLATE OR GREENSTONE FROM WEISE MOUND, SHOWING SCRATCHES AND ANIMAL-LIKE FIGURE

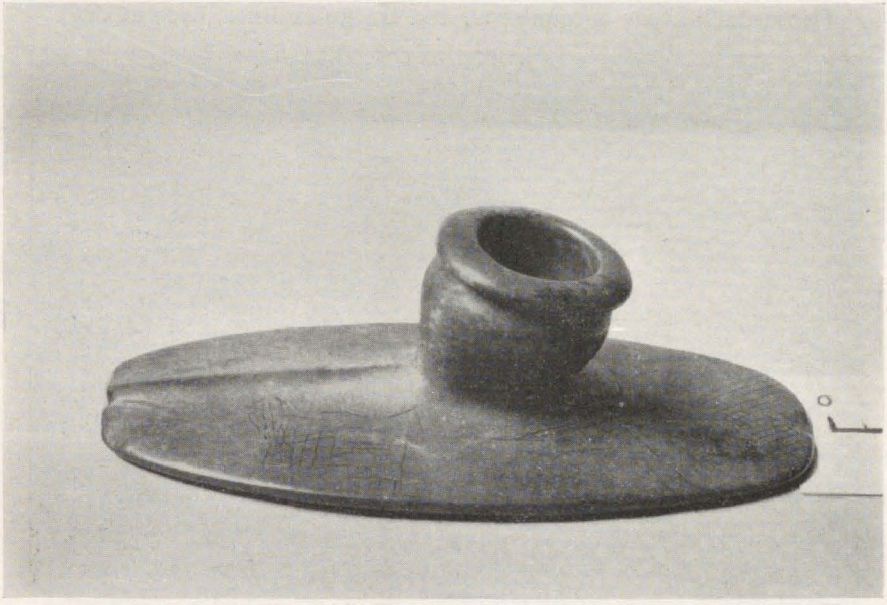

PLATE 24. SIDE VIEW OF ABOVE PIPE, WITH ANIMAL-LIKE FIGURE TO LEFT

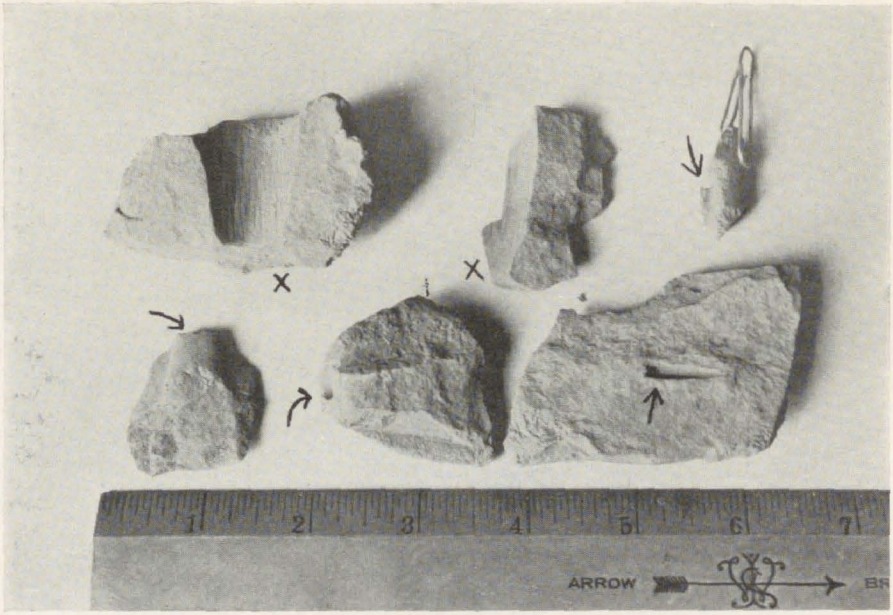

PLATE 25. FRAGMENTS FROM UNFINISHED CLAY-MUCK PIPE REMOVED FROM WEISE MOUND

[Crosses indicate portions of interior of bowl; arrows indicate bore]

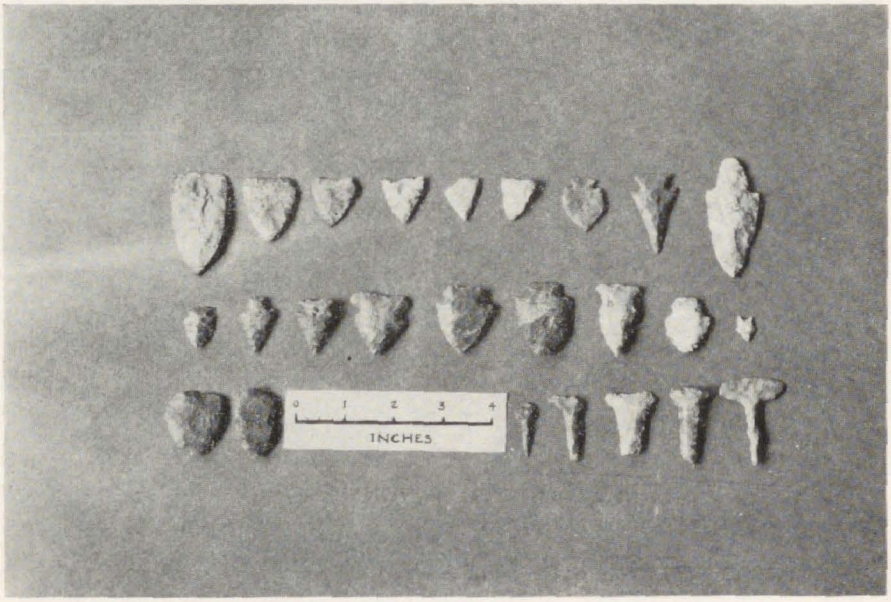

PLATE 26. PROJECTILE POINTS FROM WEISE MOUND. SEE PAGE 47

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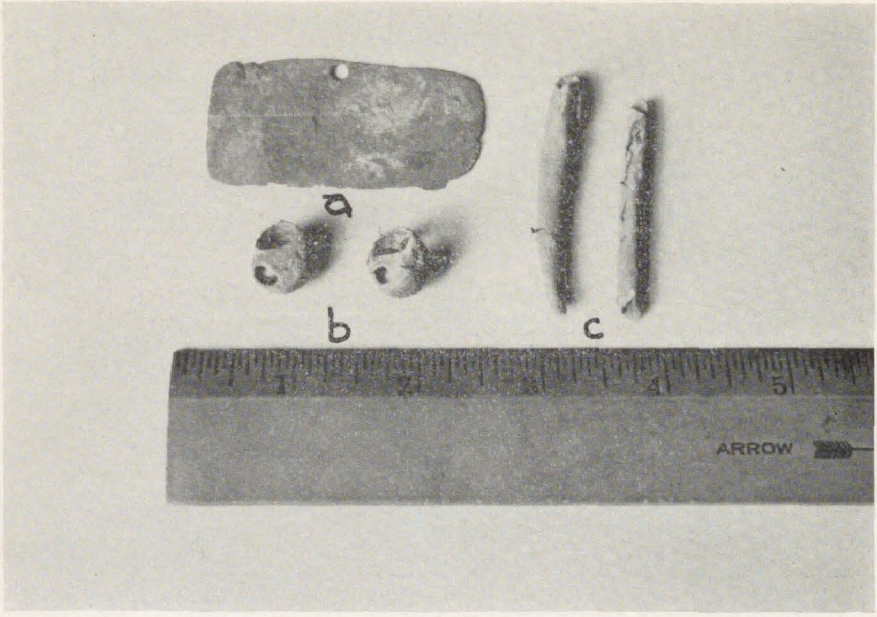

PLATE 27. ARTIFACTS FROM WEISE MOUND
[a, copper plate; b, mollusk shells, bases showing grinding for stringing; c, tubular copper beads]

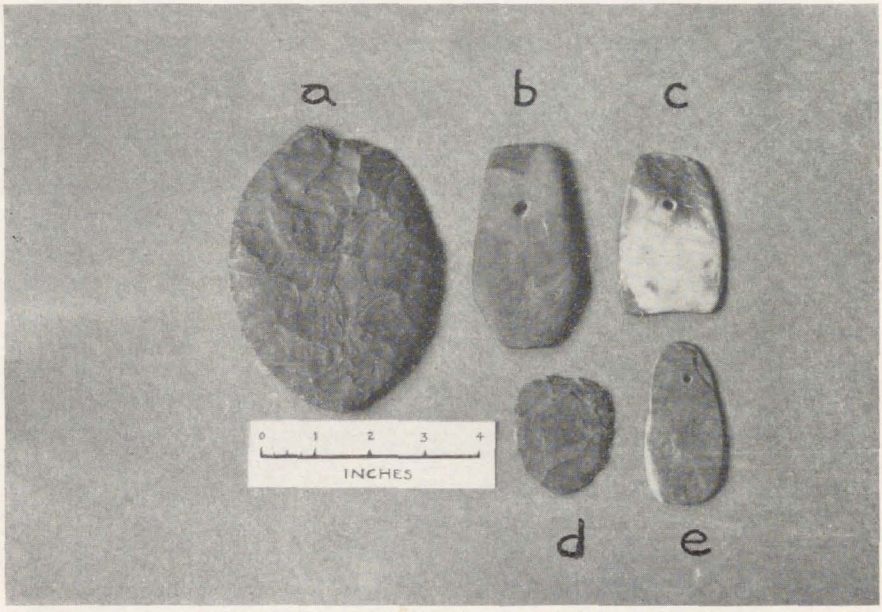

PLATE 28. ARTIFACTS FROM WEISE MOUND
[a, flint disk found in cache near mound; b, c, e, slate gorgets; d, crudely formed piece of slate, possibly intended for a gorget]

PLATE 29. UNDECORATED, CORD-MARKED, GRIT-TEMPERED UTILITY POT REMOVED FROM WEISE MOUND

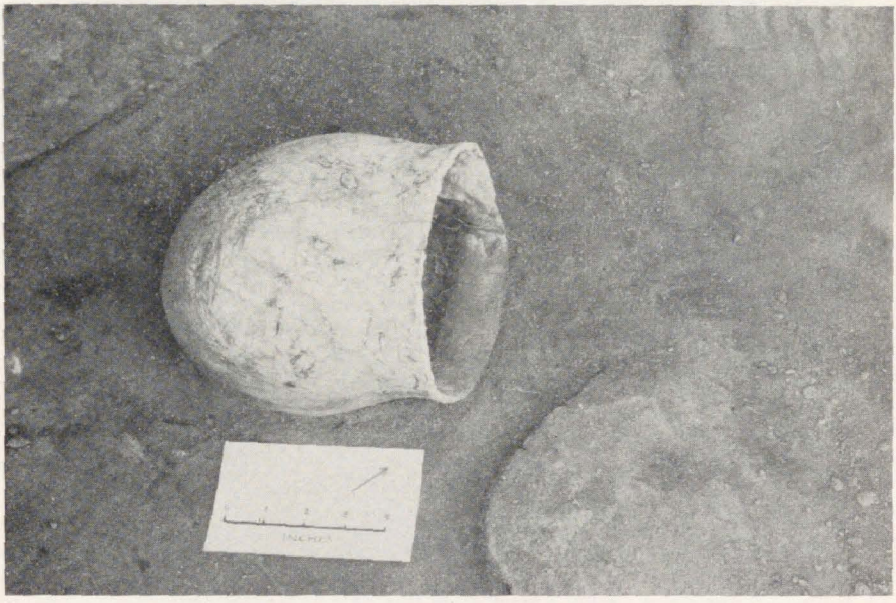

PLATE 30. ABOVE POT, *in situ*, WITH OUTLINE OF PORTION OF SKULL TO RIGHT AND BELOW VESSEL

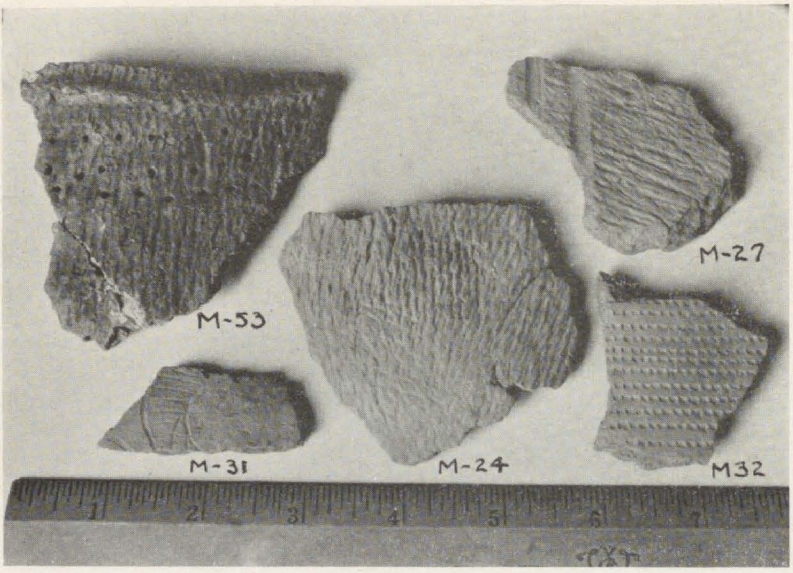

PLATE 31. POT SHERDS FROM WEISE MOUND

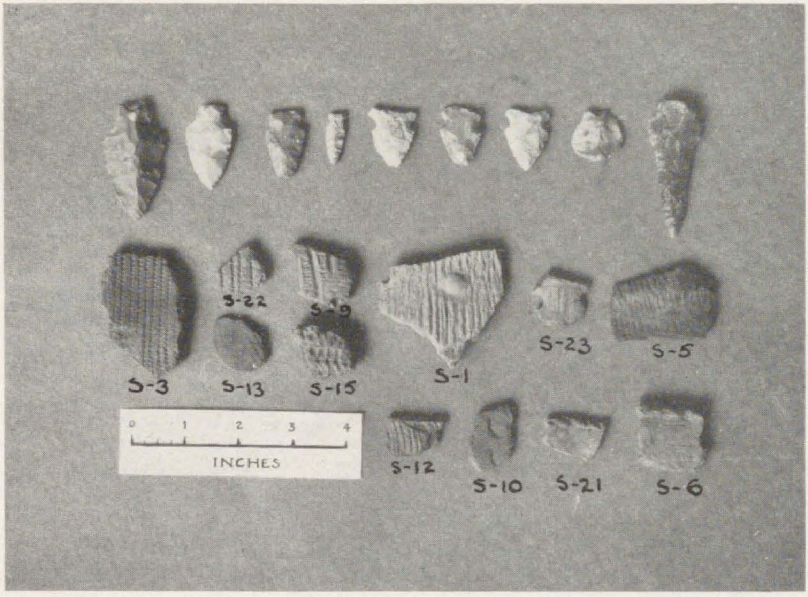

PLATE 32. SURFACE MATERIAL FROM WEISE MOUND
["Roulette" sherd S-3 is identical in design with sherd M-32, Plate 31]

PLATE 33. TOP OF OUTER EMBANKMENT OF EARTHWORK, SITE 33
[Figure indicates tree estimated to be 150 or 200 years old]

PLATE 34. EMBANKMENTS OF EARTHWORK, SITE 33
[Boy and dog on outer embankment; arrows indicate inner embankment; laborer standing in depression between]

PLATE 35. EMBANKMENTS OF EARTHWORK, SITE 33
[a, outer embankment; b, shallow depression; c, inner embankment]

PLATE 36. TRENCH THROWN ACROSS EMBANKMENTS OF EARTHWORK, SITE 33

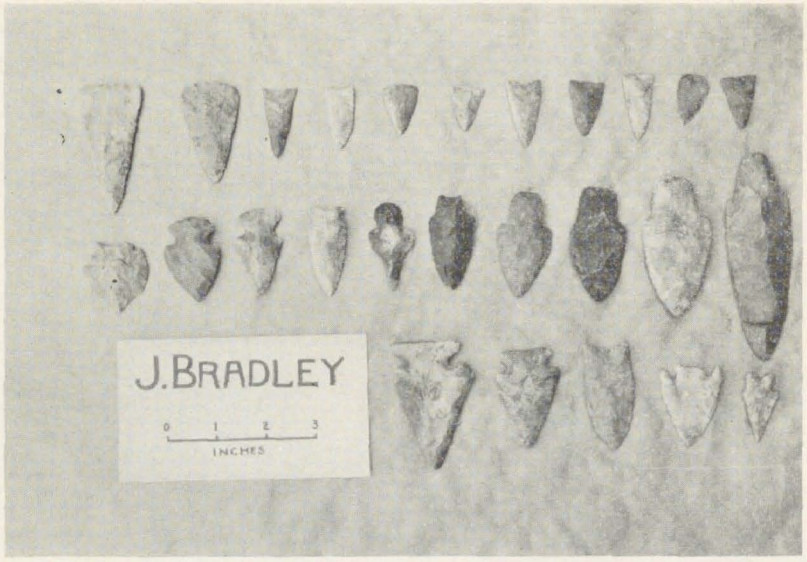

PLATE 37. PROJECTILE POINTS, JOE BRADLEY COLLECTION, FLINT LAKE

PLATE 38. ARTIFACTS, JOE BRADLEY COLLECTION, FLINT LAKE

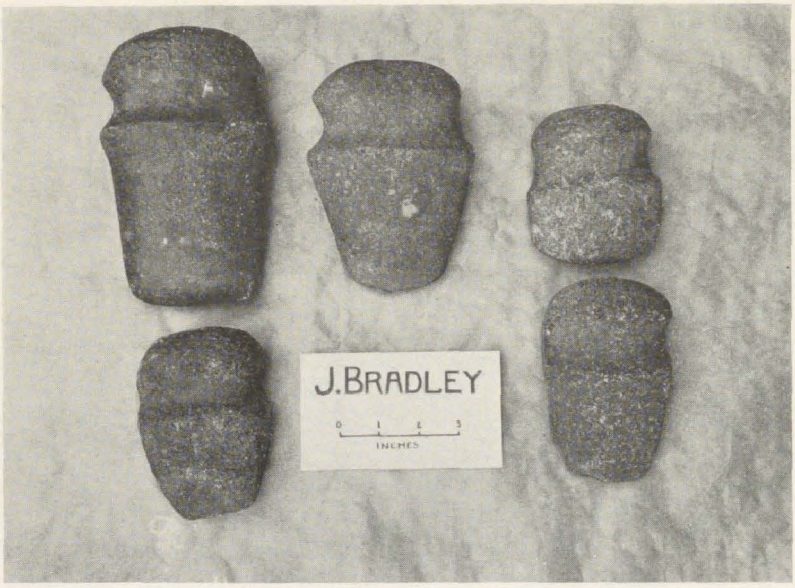

PLATE 39. AXES, JOE BRADLEY COLLECTION, FLINT LAKE

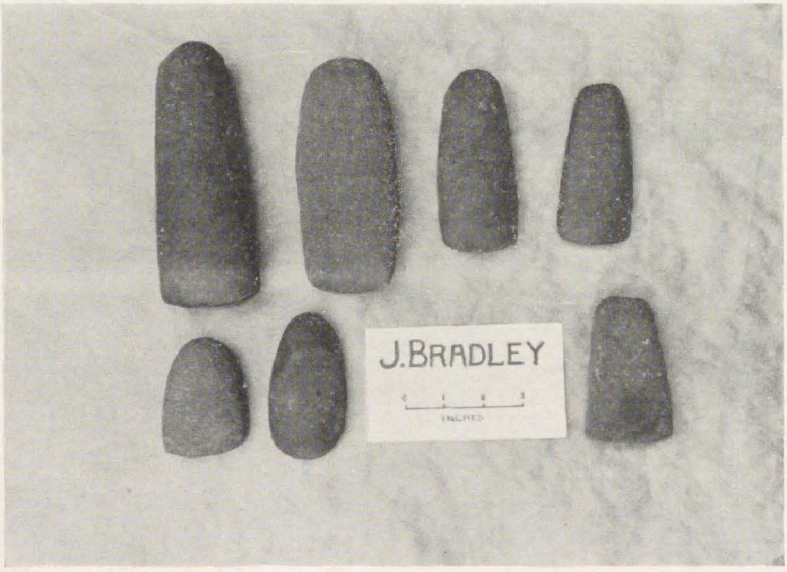

PLATE 40. CELTS, JOE BRADLEY COLLECTION, FLINT LAKE

PLATE 41. ARTIFACTS, JOE BRADLEY COLLECTION, FLINT LAKE

PLATE 42. ARTIFACTS, ALBERT WEISE COLLECTION, KOUTS
[Three disk-like blades in upper row obtained from cache near Weise Mound, Site 35]

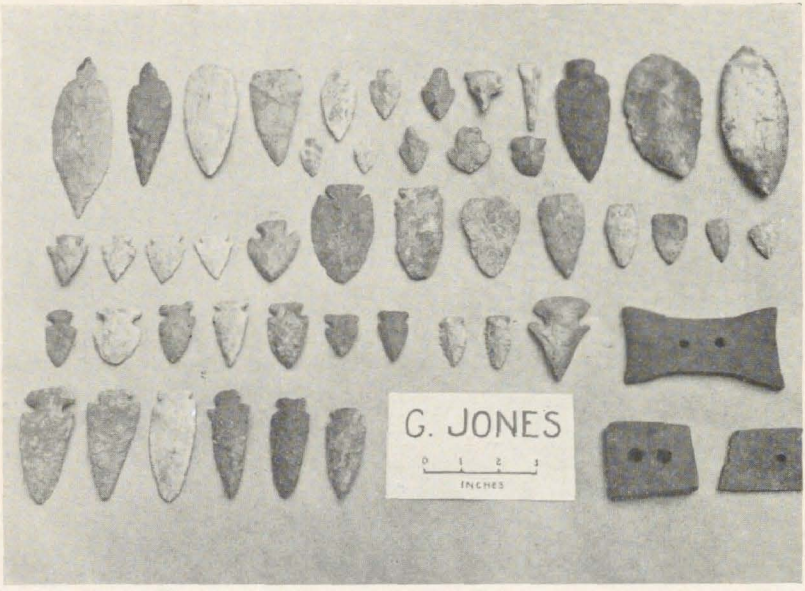

PLATE 43. ARTIFACTS, GEORGE JONES COLLECTION, VALPARAISO

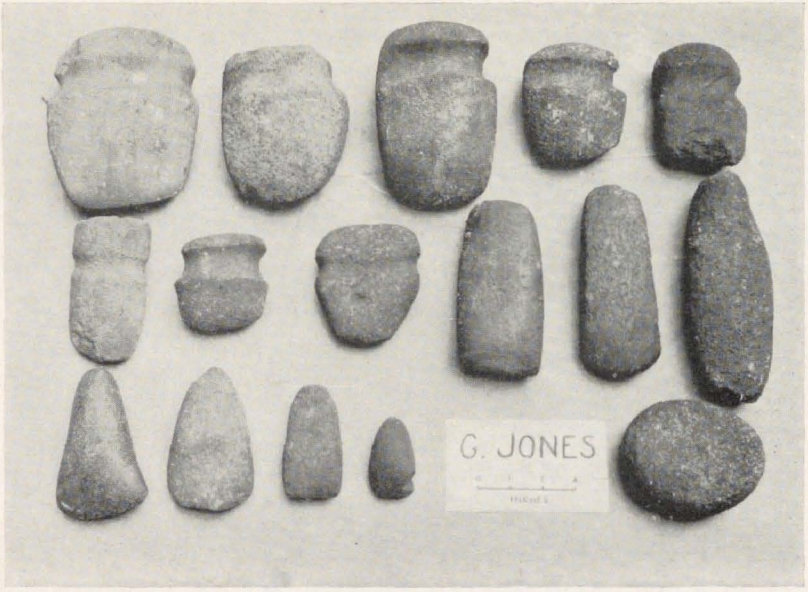

PLATE 44. AXES, CELTS, AND HAMMER STONE, GEORGE JONES COLLECTION, VALPARAISO

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